THE BUILDER

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THE HIGH COST OF BUILDING

MR. J. E. DROWER'S admirable survey in *The Times* last week of the "High Cost of Building" is a welcome contribution to our contemporary, as it should do much, coming as it does from a quantity surveyor of great experience and with a gift of clear and logical expression, to inform an interested and inquiring public what are the principal reasons for the present high cost of building compared with prices prevailing before the war. Even before that catastrophe, the cost of building was no doubt often thought to be excessive by the public, who were not so vitally concerned as they are to-day, and most of us remember the allegations which were freely made that rings of builders and combinations of merchants and manufacturers were always ready to take advantage of the simple-minded and trustful client. Whatever reason there may have been for such suspicion—and we believe there was much less than was alleged—now that so much attention is given by Parliament to building trade matters, and now that so many people are house owners having to do their own repairs, a more widespread opinion is expressed by interested parties that the cost of building is too high—an opinion, says Mr. Drower, "held so universally that it would be well to go to the root of the matter and to examine what are the causes which would operate to produce dearness." Mr. Drower proceeds to discuss these causes, *i.e.*, too high wages; low output by workmen; bad organisation of work; dearness of materials and builders' excessive profits. He finds that in London and the larger towns the rise in wages has not been out of proportion to the cost of living, and though the rise in country districts was more considerable, it cannot be said the rates are excessive and that it is not by lowering wages that the difficulty can be solved. It is otherwise with output, however. If bricklayers, for instance, lay 450 bricks per day, as we are told, as against a minimum of 750 in pre-war days, "the rise of wages, coupled with this reduction of output, makes labour in brickwork cost in 1926 more than it did in 1914 by 115 per cent. This figure applies accurately enough to other trades, so that, if the total cost of building has gone up 100 per cent. and that of labour alone has gone up 115 per cent., that of materials, transport, management and other items has not gone up more than 85 per cent." We have the facts, says Mr. Drower, "and they lead to the unavoidable conclusion that the output of the workman under trade union rules is not what it was or what it ought to be. Great numbers of men disregard these rules, and then we see a very different state of affairs. A carefully considered system of bonuses distributed to the men for improved output works miracles."

As to "bad organisation of work," the result, we are told, of the great change of the last few years in the methods of the genera builder is that what are known as overhead charges have increased greatly, and now form a larger proportion of the total cost of building than formerly, but "this increased cost should be more than made up by the smaller labour bill and more economical use of material. Organisation becomes, therefore, more and more important as an element of cost."

In discussing the price of materials, we get the opinion that "whatever may be the feeling in regard to trusts and rings nothing has been proved against them to favour the idea that their suppression would reduce the present inflated cost of building. It has been calculated that the cost of building material produced in this kingdom shows, if reduced to its elements, that 72 per cent. of its total cost goes in labour, the balance of 28 per cent. representing superintendence, finance, wear and tear of plant and machinery, rents, and royalties. Some statisticians place the percentage for labour a good deal higher. The *crux* of the matter is again labour, its organisation and economic employment, its freedom from the trammels of improper restrictions."

On the question of builders' profits, Mr. Drower is very frank, but, we believe, absolutely fair, and few, if any, builders will take exception to what he says. He admits that excessive profits are occasionally made in the general building trade and that in certain districts "it is difficult to get a truly competitive price from local builders . . . but these are rare exceptions and as a general rule truly competitive prices can be got from local builders. . . . If there is any profiteering in building it is on the part of the speculating builder, who is now again providing for the bulk of the housing requirements of the country. . . . For the moment he is providing something the demand for which exceeds the supply, and can dictate terms; but the time is not so very far off when the demand will slacken and profits will fall off." That we believe to be a correct inference from the facts and confirms the opinions we have expressed again and again, that the conditions in the building industry are artificial and that those who think ahead will bear this in mind.

The general conclusions of Mr. Drower are that "while other causes may be to a small extent contributory and should not be neglected, labour and organisation, and especially labour, are the two points to which we must devote attention if we wish to reduce seriously the cost of building. . . . Nobody knows this better than trade unionists themselves, although they believe it to be in their true interests to follow the advice of their doctrinaire leaders. The employers, too, have their part to play in the skilful organisation and the strict, but fair, supervision of their works, in watching every development in machinery and appliances, in scrapping ruthlessly all inefficient plant, and in sympathetic and just treatment of their men."

We have quoted freely from Mr. Drower's article because we consider his conclusions are so much to the point. Much might be written in support of these conclusions, which we believe will be confirmed by all who are familiar with the present conditions prevailing in the Industry, and we hope the facts will be considered impartially by those concerned. So far as architects and the building trade employers are concerned, they are as anxious as anyone to reduce costs and do not overlook any way of reducing them. But if we are to accept as fact the uncontradicted statements made by Mr. Drower and others, it is to labour that we must look for any substantial reduction in cost—not in a reduction of wages, but in a substantial increase in work for the regular wages paid. Hitherto employers and workmen have asked for and been content with a fair day's work for a fair rate of pay, but while no one can doubt that the building trade operative at least is receiving a fair rate of pay, can it be said that the operative is giving the fair day's work, to say nothing of his best? If we can take Dean Inge as a trustworthy observer—as we think most readers of his article in the *Evening Standard* last week will be willing to do—the answer is an uncompromising "No." "There is a happiness in doing one's best," he says, "in turning out a good job, whether a man is working for himself or for another. If we are lukewarm about the object of our labour, some work will be tolerable, other work will be unpleasant. If we hate our neighbours for whom we are working, all work will be resented. . . . It is ill-will—fed by false and poisonous social teaching—which makes our economic problems so unhopeful, and our people so unhappy."

As he further says, "we have two object-lessons before us—on one side America, faithful to sound economic traditions, and rolling in prosperity; on the other side Russia, the Russia of Lenin, ruined, miserable, paralysed with terror. May we not say, 'Look on that picture, and on this'"?

Is it too much to hope that such pertinent and wise counsel as we have quoted above will reach the ears and the understanding of those who have it in their power to bring back prosperity to our land? It is not too much to say that craftsmen and labourers in the various industries who honestly put their heart into their work and do their utmost to earn good wages are doing far more good for their country and themselves than politicians and labour leaders with their speeches and diatribes.

NOTES

The late Mr. W. H. Brierley.

WE regret to have to record the death of Mr. Walter H. Brierley, F.S.A., F.R.I.B.A., the consulting Diocesan Architect of York. Though Mr. Brierley has left a long record of admirable buildings of almost every kind, he was only 64 years of age, and those who had seen him recently would have expected much active work yet from his hands. It is such a practice as that carried on for so long by Mr. Brierley which gains for the modern architect at his best an assured reputation. The provinces have provided many such notable practices, as in the work of Messrs. Paley & Austin, of Lancaster, Mr. John Douglas, of Chester, Mr. R. J. Johnson, of Newcastle, Messrs. Silcock & Reay, of Bath, and Mr. G. E. Grayson, of Liverpool. Elsewhere we give some detailed account of Mr. Brierley's work.

The Care of Our Old Churches.

THE careful custody of our old parish churches is a matter of much concern to architects. We have met with many clergymen who have fulfilled their responsibilities in the care of their churches with whole-hearted zeal and great discrimination, but there are unfortunately many cases in which ignorance and carelessness have contributed to the most lamentable results. Only the other day we could not help comparing the terrible blunders made in former years by additions to Thames Ditton Church with the present conservation and care which are being bestowed upon it. The letter we publish this week from "De Mal en Pis" suggests grave doubt as to the wise restoration of over forty churches and manses in Scotland, which will be the outcome of the Church Property Act of 1925. We hope the R.I.B.A. and other interested bodies will be able to exercise some effective oversight in this matter.

Building Research.

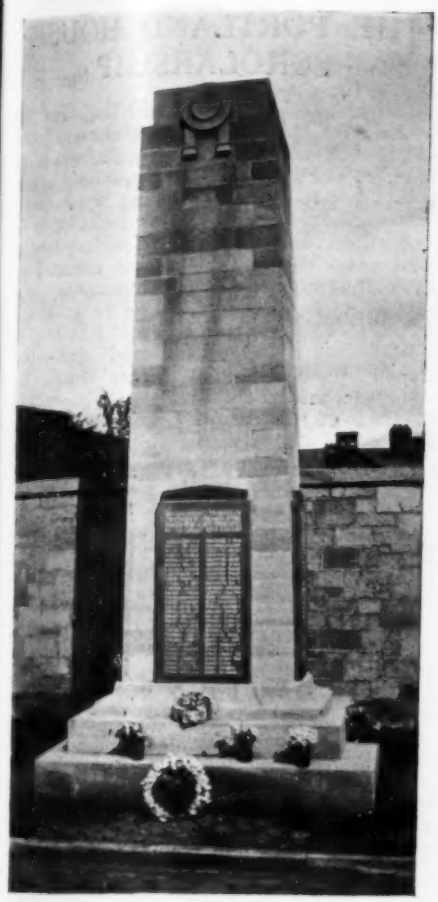
WHEN we consider the decay of the stone surfaces of modern buildings, it is obvious that a better realisation of how this deterioration is to be avoided is a very essential need. It is lamentable to see the decay going on in our great Parliament Houses and the continual repair which is called for. That a better material could have been used one can hardly doubt, though Portland stone would hardly have been a wise choice for the rendering of intricate Gothic detail to a sympathetic and pleasing result. We have had notable instances lately of large repairs of facing stone in London buildings, and this question of the right choice of building materials is brought again to general notice by the increased activities of the Building Research Board. New premises have now been established at Garston, near Watford, where efficient service can be provided for all who are in need of sound scientific advice in the choice of the best materials for building and their application. Great activity and much well-directed enterprise have been devoted to the development of materials and appliances for the betterment of building operations, and now more than ever the assistance and advice of a body like the Building Research Board should be much valued.

Th Design of Multiple Shops.

THE establishment of large business enterprises and the production of multiple shops suggests that the owners might wisely take steps to ensure a good type of design, so that where new or improved premises are required they may be of such a kind as will be pleasing in themselves and harmonious with their locality. The problem of preserving the spirit and atmosphere of our English villages by ensuring that new buildings shall not import an alien style, is raised by Mr. Cecil Harmsworth in a letter to *The Times*, in which he protests against the erection of shops with large plate-glass fronts, in preference to the more distinctive appeal made by an architectural

St. Quentin Railway Station.

[The railway station at St. Quentin was entirely destroyed during the war, and the new structure shown above has recently been completed.]



Cefn War Memorial, Wrexham, N. Wales.
Mr. F. Hamer Crossley, A.R.I.B.A., Architect.
(*See p.* 374.)

scheme in harmony with the general spirit of a country town. If other reasons than those of art are required to justify this appeal, let it be remembered that visitors wandering through the high street of a country town are more inevitably drawn to the old-fashioned fronted shop than to the type with which they are thoroughly familiar in the big towns. The subject will, we hope, be taken up vigorously by the newly formed Society for the Preservation of Rural England, in the near future.

The City Churches. The Bishop of Southwark, Dr. Cyril Garbett, in his diocesan letter, states that much misunderstanding and unnecessary alarm have been created by the City Churches Measure, and that for many years the ecclesiastical arrangements in the City of London have been subject to severe and well-deserved criticism. There are 46 churches, with 46 choirs, 46 organists, and over 60 clergy, to a resident population of 13,000. Dr. Garbett declares that he would not touch any church which has historical associations or architectural interest, or is of any practical use. "But there are five or six churches," he adds, "which have no historical interest, no beauty or dignity, and are empty from one end of the week to the other. These are the churches which we want to see removed, their sites sold, and the large sums of money obtained in this way used for the building of churches in the new districts into which people are moving by tens of thousands." While the moderate tone of Dr. Garbett's letter impresses, we nevertheless would point out that one of the churches amongst others scheduled for demolition is the beautiful St. Magnus the Martyr, in Lower Thames-street. This church dates from 600 A.D., and has an average weekly attendance of two to three thousand. Evidences, as this, of hasty judgment, tend only to weaken confidence in the City Churches Measure, the promulgators of which apparently are unmindful of the fact that it is easier to destroy than to create.

Irregular Frontages. A complaint has been lodged against the unevenness of frontages in Foster-lane which appears to have been sanctioned by the L.C.C. One is inclined to think there has been some bad management somewhere, caused no doubt by the difficulty of ancient lights. Whether it would have been better to narrow the whole street so as to get rid of the unevenness of the frontage line seems, however, somewhat doubtful.

The Late Mr. Somers Clarke. We regret to have to record the death of Mr. Somers Clarke, whose long and honourable record is well-known to many of our readers. He was for a time surveyor to St. Paul's Cathedral, and in conjunction with Mr. J. T. Micklethwaite undertook the repair of many old churches. His St. Martin's Church, Brighton, the extension of Brighton Parish Church, and St. John's, Gainsborough, are amongst his better known works. In later years, he was much drawn to work in Egypt and helped with the repair of some ancient temples. Some of our readers will turn with interest to his volume on Christian antiquities in the Nile Valley.

Alfred Gilbert. The return of this fine sculptor to England after so many years will be welcome news to many who have regretted Mr. Gilbert's absence from the country. The fact that he has come back to complete the tomb of the Duke of Clarence so long left unfinished is recognition of his distinguished and unimpaired abilities, and we trust he may be spared for many more years of work. Through all this long period of his absence from England he has retained the affection and esteem which his character and abilities deserve, and his presence amongst us again should give a new impulse to an art which in his hands has always been sustained at so high a level.

Sevenoaks. From a Pencil Sketch by Mr. C. F. W. Dening.

GENERAL NEWS

Professional Announcements.

Mr. H. E. Watkinson, F.S.I., M.I.Struct.E., Chartered Surveyor, architect, of Caversham, Reading, has been appointed by the L.C.C. as District Surveyor for St. Pancras North as from September 1, with offices at 272, Kentish Town-road, N.W.5. The district of St. Pancras has now been divided into two parts, North and South, and Mr. Watkinson's district comprises that part of the Borough of St. Pancras northward of a line along Albert-road, Delancey-street, High-street, Crowndale-road and Pancras-road to King's Cross.

Mr. Henry A. Mackmin, F.S.I., Chartered Quantity Surveyor, has removed from 39, Maddox-street to 10, Vigo-street, London, W.1. Until the permanent telephone is connected, messages can be received on Regent 2745.

Discoveries at Beisan.

Mr. Alan Rowe, Field Director of the expedition in Palestine, has now completed the examination of material found during the 1925 season, and has identified the two temples of the Philistines, mentioned in the First Book of Chronicles. The expedition discovered four Canaanite temples, two of which had been built during the time of Rameses II, one in the reign of his predecessor Seti I, and one in the Tell-el-Amarna era. The roofs of all the temples were undoubtedly made of wood.

New Flats, Marylebone.

The report for the year 1925 of the Medical Officer of Health for the Borough of Marylebone states that 180 new flats have been erected.

Ancient Causeway at York.

A section of an old cobbled causeway has been discovered by workmen north-east of York in excavating for drains. The section, which is 9 ft. wide and a foot deep, corresponds with a similar discovery made recently half a mile away, and obviously forms part of a road built across marshy ground into York from the north-east.

English Homes for America.

Mr. Lionel F. Phillips, of Banbury, England, who is now in Richmond, Virginia, as consulting architect in the work of reconstructing Warwick Priory and Agecroft Hall, has some interesting comments to make on the *Manchester Guardian Weekly's* opinion that "a house built to be snug in spite of the wet winter mist of an East Lancashire valley must become in some degree functionless and absurd in the State of Virginia." He says that the present sites and surroundings are as nearly as possible in replica of the original settings, and that from the artistic and architectural standpoint, nothing has been lost in the transfer from England to our former dominion. All the dignity and character of these old homes have faithfully been preserved, and as a large part of the stonework and panelling of Warwick Priory is being used to construct a replica of Washington's home, Sulgrave Manor, for use as a national shrine of art treasures, it may well be that the transfer will serve as an additional link between the two countries.

West Malling Cricket Ground.

We are glad to hear that an anonymous lover of sport has bought the 12 acres of the old cricket ground at West Malling, in Kent, which, together with about 970 acres more of land, recently was sold with the intention of developing it for building. The cricket ground is generally held to have been the scene of Dickens's "Dingley Dell v. All-Muggleton" match in "The Pickwick Papers," and the buyer's intention is that henceforth the ground shall be devoted solely to cricket and other games.

Roman Discoveries.

Remains of the Roman occupation of Derbyshire have been discovered at Breadsall, three miles from Derby. While men were excavating near the church they came across part of the Roman road known as Rykneld-street. It is composed of about 2 ft. of large quartzite boulders lying directly upon the natural clay and on the top of these boulders is a layer of gritstone about 9 in. thick, covered with ordinary gravel. Fragments of pottery and a number of coins have been found. Further investigations are to be carried out by Mr. C. A. Clews, the Derby Borough Surveyor.

St. Paul's Bridge.

A meeting of the Special Sub-Committee of the Bridge House Estates Committee of the City Corporation was held on the 26th ult., at Guildhall, Mr. H. Weber Brown presiding, to deal with matters connected with the proposed St. Paul's Bridge, when it was decided that Mr. Basil Mott, the consulting engineer for the bridge, should give evidence on technical problems involved (including the safety of the Cathedral) before the Royal Commission on Cross-River Traffic. A statement setting forth the history of the proposals for a new bridge at St. Paul's is to be prepared.

The Royal Sanitary Institute.

The thirty-eighth Congress and Health Exhibition of the Royal Sanitary Institute will, at the invitation of the Town Council, be held at Hastings from July 11th to 16th next year. The Right Hon. Sir William Joynson-Hicks, Bart., P.C., M.P., Home Secretary, has consented to act as President of the Congress.

Dublin Housing Extension.

The Dublin City Commissioners are recommended to apply to the Minister for Local Government for a provisional Order to enable them to acquire a tract of land containing about 36 acres, adjacent to the Kehoe-square site, and for permission to raise the necessary loan. The cost of the extension scheme is estimated at £298,000, and provides for the erection of 114 five-room, 200 four-room, and 256 three-room houses—570 in all—with a new thoroughfare from the South Circular-road to the first lock of the Grand Canal.

Alterations to Derbyshire Landmark.

The famous Cat and Fiddle Hotel, which is a well-known landmark to travellers along the Buxton-Macclesfield road, is undergoing extensive repairs. This house is well over 1,700 ft. above sea level.

Torquay Town-planning.

The Town Council of Torquay, with the help of Mr. W. R. Davidge, has prepared a scheme for the construction of a road 60 ft. wide on the heights above the town. This broad highway will be about eight miles in length and will join up with existing roads, completely encircling the borough and opening up exquisite outlooks over the moors and the sea. The total area, urban and rural, which it is proposed to deal with under the scheme is about 8,000 acres, and provision is made for pleasure grounds and open spaces, new schools, playing fields, and allotments.

Archæological Discovery at Cambridge.

A discovery of some interest has just been made in the churchyard of Little St. Mary's, Cambridge. For many years the question of the actual position of the chapel erected at the cost and during the lifetime of John Warkworth, Master of Peterhouse (1473–1500), on the south part of the nave of this church has been debated among antiquarians. A careful excavation made by Dr. R. Lachlan and Mr. E. A. B. Barnard has now revealed the foundations of a small chapel measuring approximately 8½ ft. by 12½ ft., built out from the south wall of the church, and there is good reason to believe that these are the foundations of the chapel erected by John Warkworth.

Excavations at Winchester.

For some weeks past several Oxford Old Wykehamists have carried out excavations on St. Catherine's Hill, Winchester, with the object of discovering the site and extent of St. Catherine's Chapel, which stood upon the hill from the twelfth century till the Reformation.

THE PORTLAND HOUSE SCHOLARSHIP

THE Institution of Structural Engineers has awarded the Portland House Scholarship (£300 and Gold Medal) to Mr. George Robertson, of Bath. The Portland House Scholarship is one of a group of three Travelling Scholarships, each value £300, which the Institution offers to young engineers at the rate of one scholarship each year. Mr. Robertson was educated at King Edward's School, Southampton, and Queen's College, Oxford, where he graduated B.A. in Engineering, received Honours in Mathematics Moderations, and first-class Honours in Engineering Science Finals. He had also won an Exhibition of £175 per annum in 1922 of the Royal Commission for the Exhibition of 1851. Mr. Robertson, who is 26 years of age, is at present employed as Assistant Engineer to the City Engineer of Bath. Under the terms of the Scholarship award he will be required to travel on the Continent and in America to study modern concrete development.

The Portland House Scholarship consisted in a preliminary written examination in structural engineering followed by a final competition in design, the subject this year being a large reinforced concrete bridge. Candidates had to supply such drawings as they would have supplied had they actually been commissioned to design a bridge and been given one month in which the prepare a scheme. They had also to submit a specification and quantities. The final design had to conform to the preliminary sketch.

The Institution awarded a silver medal to Mr. C. J. Wood, of Purley, and a Bronze Medal to Mr. F. W. Davey, of Victoria-street, S.W., the two candidates placed next in order of merit.

COMPETITION NEWS

Town Hall Extension, Municipal Offices, and Public Reference Library, Manchester.

The conditions of this Competition are in accordance with the R.I.B.A. Regulations for the Conduct of Architectural Competitions.

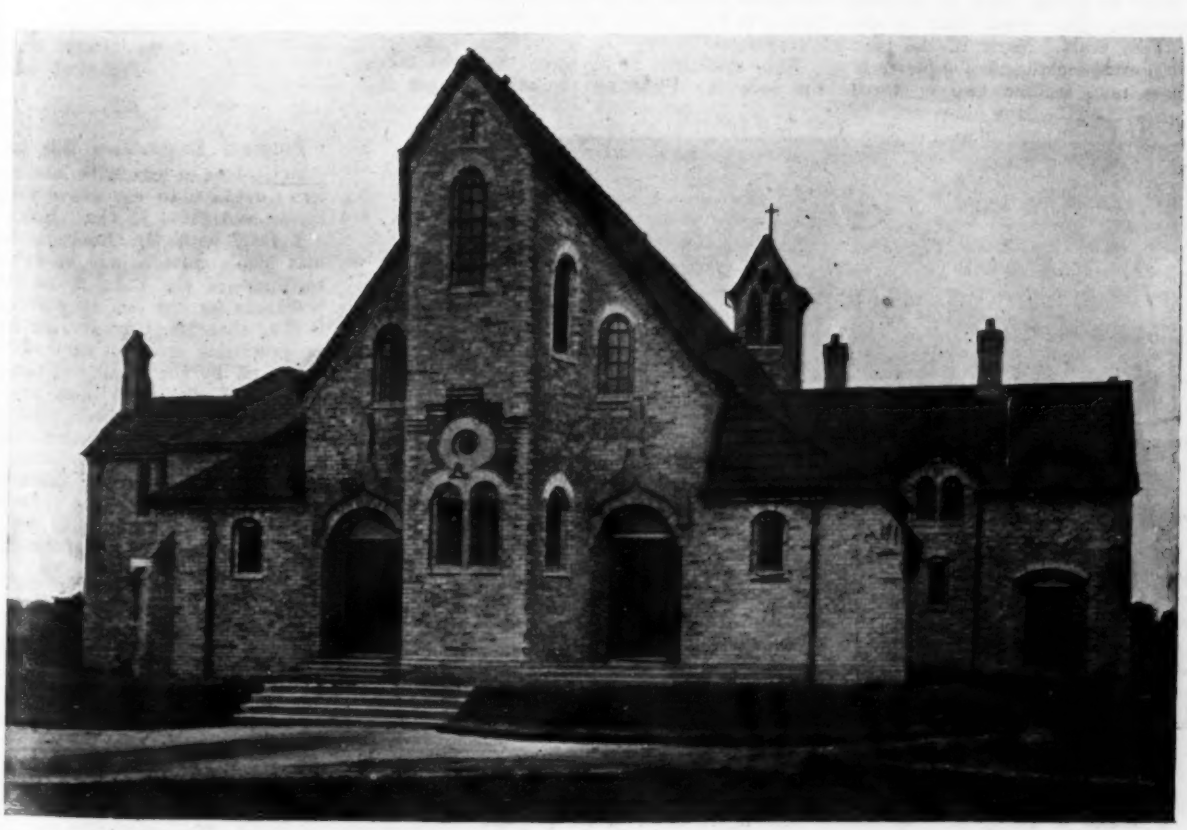
Lay-out of Houses on Peny-waun Site.

The Competitions Committee of the Royal Institute of British Architects desire to call the attention of members to the fact that the Conditions of this Competition are not in accordance with the Regulations of the R.I.B.A. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment.

COMPETITIONS OPEN.

Plan for construction of Conference Hall, for League of Nations, Geneva. International Competition, Sir John Burnet being British representative on Jury of Assessors.	Particulars published in "Builder." July 23 ..	Sending-in date. Jan. 25, 1927
Cenotaph, Liverpool. To be erected outside St. George's Hall. Premiums: 1st, £200; 2nd, £150; 3rd, £100; 4th, £50. Author of selected design will be paid commission of 500 guineas, to include premium. Professor C. H. Reilly, assessor. Second premium will only be awarded to ex-Service man	June 11 ..	Sept. 30
New Offices for Scottish Legal Life Assurance Society, Bothwell-street, Glasgow. Mr. John Keppie, A.R.S.A., F.R.I.B.A., assessor. Apply Mr. William Watson, Secretary, 84, Wilson-street, Glasgow, before August 21. Deposit £1 1s.	Aug. 6 ..	Oct. 30
Academy, Perth. Open to architects practising in Scotland. Premiums: £100 and £50. Mr. James D. Cairns, assessor. Apply Mr. R. Martin Bates, Education Offices, Perth. Deposit £1 1s.....	July 23 ..	Jan 3, 1927

High Altar.



West Front.

Rosewell R.C. Church, Midlothian. Mr. Archibald Macpherson, F.R.I.B.A., F.S.A. (Scot.) Architect.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Blue Roofing Slate.

SIR,—During the recent excavations at St. Catherine's Chapel, Winchester, quantities of thick blue roofing slate were found, associated with the remains of every part of the building. Many fragments are pierced for nails, and almost all have mortar adhering to a greater or less degree. I should be glad if any correspondent of your paper could inform me of the approximate date at which such slate began to be used for roofing in the centre of the south of England, and whether its use was ever at all common before the Reformation period, when this chapel was demolished.

C. F. C. HAWKES.

Winchester College.

Restoration of Window, Thornton Abbey.

SIR,—Mr. Cresswell's notes and sketches on the above will be read by many of your Gothic men with interest. The most important interpenetration of Gothic moulding I have seen is in the arcading of the north side of the choir of Exeter Cathedral, probably the work of Bishop Stapledon in the first quarter of the fourteenth century, but I do not remember seeing any in window tracery in Belgium or France.

EDWARD VALE.

Weston-super-Mare.

Church Union in Scotland.

SIR,—The following advertisement appeared in a Scottish paper this morning (August 26):—

"Architect's assistant or clerk of works, capable of inspecting and reporting on condition of churches and manses; state experience and salary expected.—Address, X No X."

The Church Property Act of May, 1925, decreed that before the Trustees took over the parish churches and manses from the heritors they must be put in thorough repair. The 84 presbyteries in Scotland appointed their own architects without consulting any official architectural body to advise them in making these appointments. The work has to be completed in three years. Many of the men appointed have no real ecclesiastical experience.

In some cases men secured two or three presbyteries. This means in some cases the restoration of over 40 churches and manses. Many of these churches are pre-Reformation churches. Obviously the work cannot be undertaken properly in the time allowed.

Such advertisements as the above are the result. Is it likely that such work can be dealt with by assistants and clerks of works unless they have a real academic understanding of the handling of old work? Registration would not protect us from such methods as the above advertisement suggests, as all the reports will appear signed by the architects appointed by the various presbyteries.

Is it not time that the Royal Institute of British Architects, the Incorporation of Architects in Scotland, or the Ancient Monuments Commissioners looked into this matter? Otherwise we are in danger of waking up some day to find that many of our pre-Reformation churches have been messed about to the instructions of parsons, presbyteries and incompetent architects who could not tell the difference between fourteenth-century work and Billings' text-book Victorian Gothic.

The strong attitude which you, sir, have always taken in connection with such problems in England leads me to hope that you will find space for this letter in your progressive and influential journal.

DE MAL EN PIS.

Timber Houses.

SIR,—Earlier in the year you kindly gave publicity to a letter from me which put forward one solution of the continuing housing problem, namely, the encouragement from the Ministry of Health downwards to the rural district councils, of the building of well-constructed timber houses.

The matter has since been energetically followed up, and in the *Times* recently will be found a press note stating that the Ministry "are not now prepared to confirm by-laws prohibiting timber buildings, and they may freely be erected under certain defined safeguarding regulations." It is further stated that there are indications that the timber house "will play an increasing part in the economy of house production in this country in the near future in view of the growing recognition of its advantages."

This statement is no more than the truth, for once the Victorian prejudice against this form of dwelling is removed from people's minds, remarkably few difficulties stand in the way. Vast resources of Imperial timber from British Columbia and elsewhere are now at this country's disposal, while the recent large-scale sylviculture undertaken by our Forestry Commission will gradually accumulate home supplies that in half-a-century's time may be utilised to repair the timber houses built to-day. Much of the labour needed can be done by semi-skilled men, and in addition, the considerable number of unemployed in the timber and woodworking industries would be almost if not completely absorbed. Admittedly the timber house is not suitable in cities, but in small towns, garden suburbs, and the rural areas large numbers could be erected—and artistically erected—at very moderate cost. The prevailing rate for fire insurance is only £1 per £1,000 more than a brick house, and where asbestos linings are used for insulation it is difficult to see that any additional risk at all is involved. Surely here is a really great opportunity, and one which none, whether selfishly or unselfishly, interested in the supplying of a great national need, can afford to miss.

JOHN STEVENSON, General Secretary,
The Incorporated Society of Auctioneers and Landed Property Agents.

R.I.B.A. and Other Societies.

SIR,—It is noticed in your issue of the 20th ult. that the President of the newly-formed Incorporated Association says, "It would be interesting to know what body, other than my Association, would safeguard the interests of t unattached qualified practitioners and th assistants."

The answer to the inferred question is tha the interests of the salaried architects and assistants are continually watched and safeguarded by the Association of which I have the honour to be Secretary, an association which ha successfully operated for a period of years before the "Incorporated Association" was founded, and which incidentally has been accorded direct representation on the R.I.B.A. Council for among other aims, the very purpose named by your correspondent.

JOHN MITCHELL,
General Secretary, Association of Architects, Surveyors, and Technical Assistants.

Proposed Registration Bill for Architects.

SIR,—I have read with interest Mr. Boulton' letter relative to the above subject and yor reference thereto in the "Notes."

I fear, with Mr. Boulton, that many un attached architects will view with alarm th tardiness of the R.I.B.A. in publishing thei proposals for the Bill they are promoting. I is true that Mr. Guy Dawber has stated that no practising architect shall be one penny the worse off by the passing of the Bill, but until details of the provisions are known thei apprehension must remain. They would, ther fore, be wise to attach themselves at once t the "Incorporated Association of Architect and Surveyors," or any other similar society of standing, whose object is to ensure that no qualified practitioner shall be detrimentally affected by the passage of the Bill.

O. R. GOODMAN, F.I.A.A., F.I.A.S.

Clearing Away Slums.

SIR,—My remarks on this subject were based on actual experience. A few houses are thoroughly bad, but the majority could b repaired provided that the brickwork is in a fa condition. As a fact, all houses within a certa area are included in the portion tinted red o the approved plan, and many fair houses a included. The price paid should be in accord ance with the actual condition of the houses which would be just, as the present Act is not.

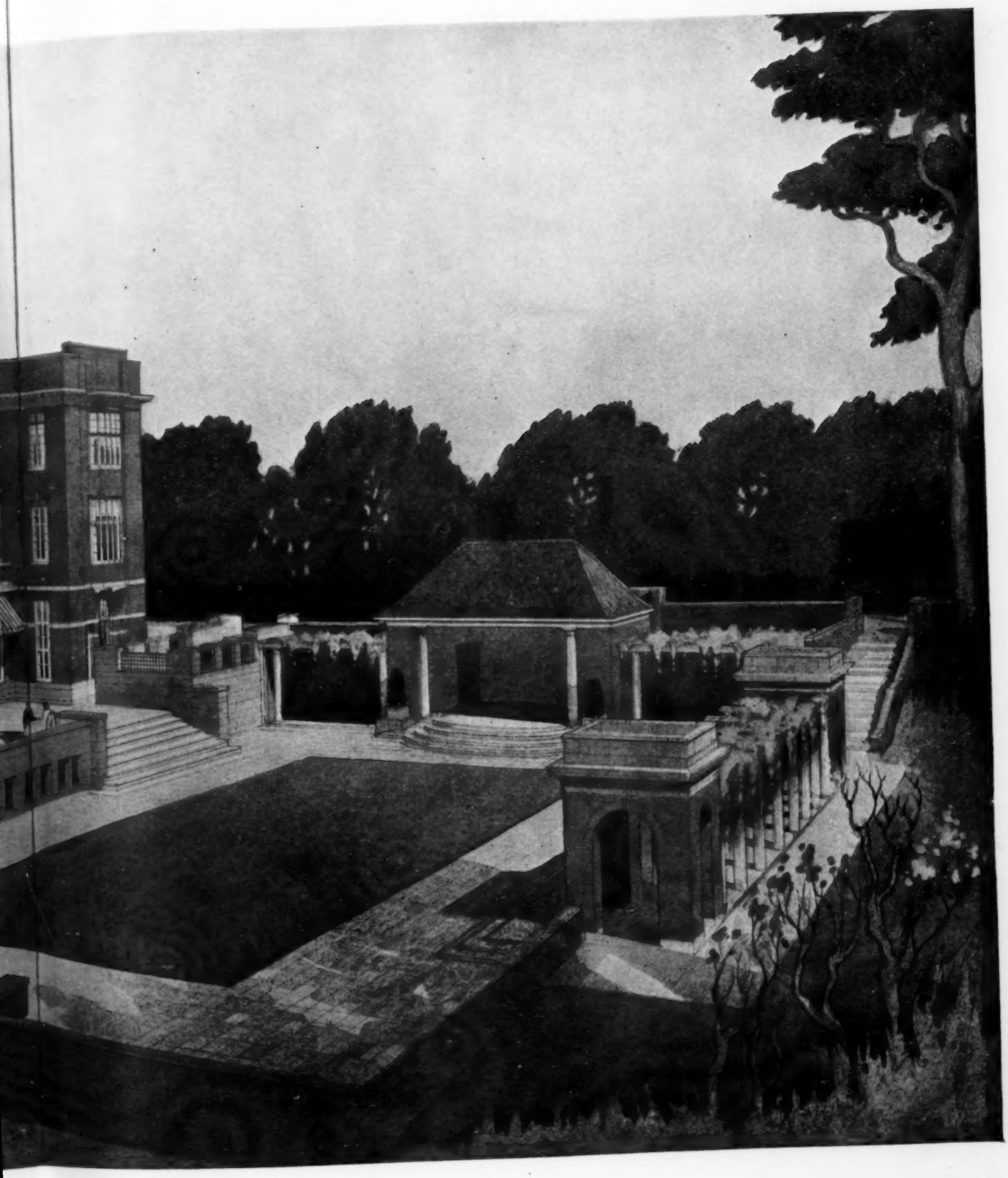
HENRY LOVEGROVE.

War Memorial in the Parish Church, Burford, Oxon.
This memorial tablet is constructed with a slab of slate let into a frame of Derbyshire alabaster. The figure is of white English alabaster. The work was carried out by Mr. W. D. Gough, of Magee-street, Kennington, S.E., to the design and under the superintendence of Mr. E. B. Hoare, of the firm of Messrs. Hoare & Wheeler, of 22, Portman-street, W.1.

UNIV. OF MICH.

R.A. Exhibition.

NEW DINING HALLS, BOURNEVILLE, FOR MESS
Mr. James Miller, A.R.S.A., F.R.I.B.A.



TRNEVILLE, FOR MESSRS. CADBURY, LTD.
A.R.S.A., F.R.I.B.A., Architect.

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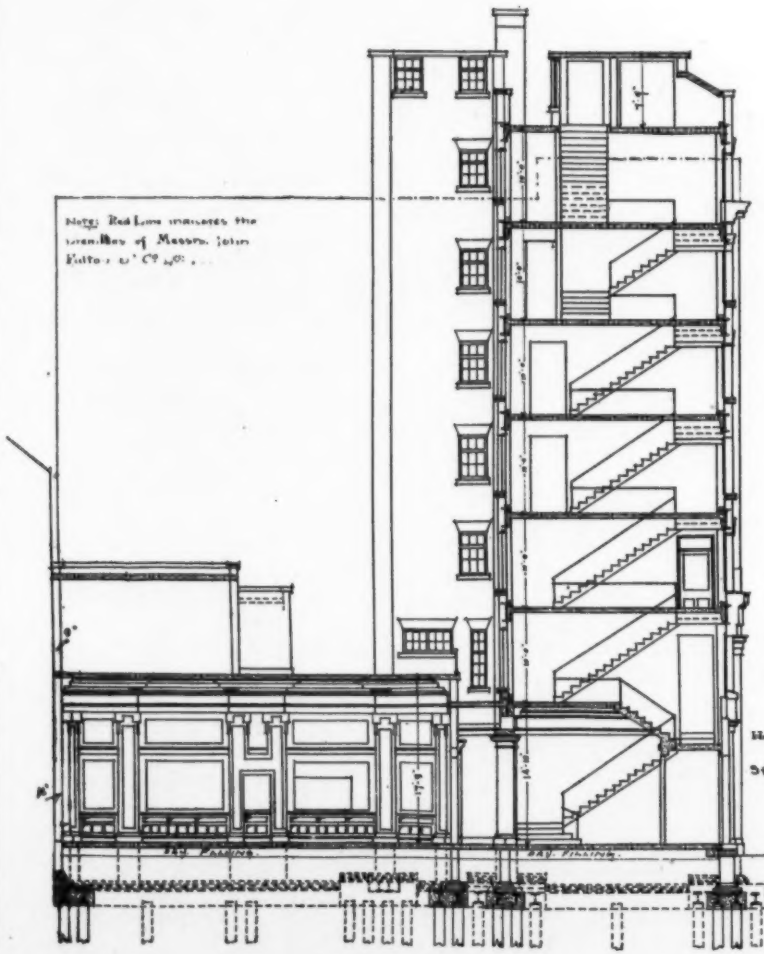

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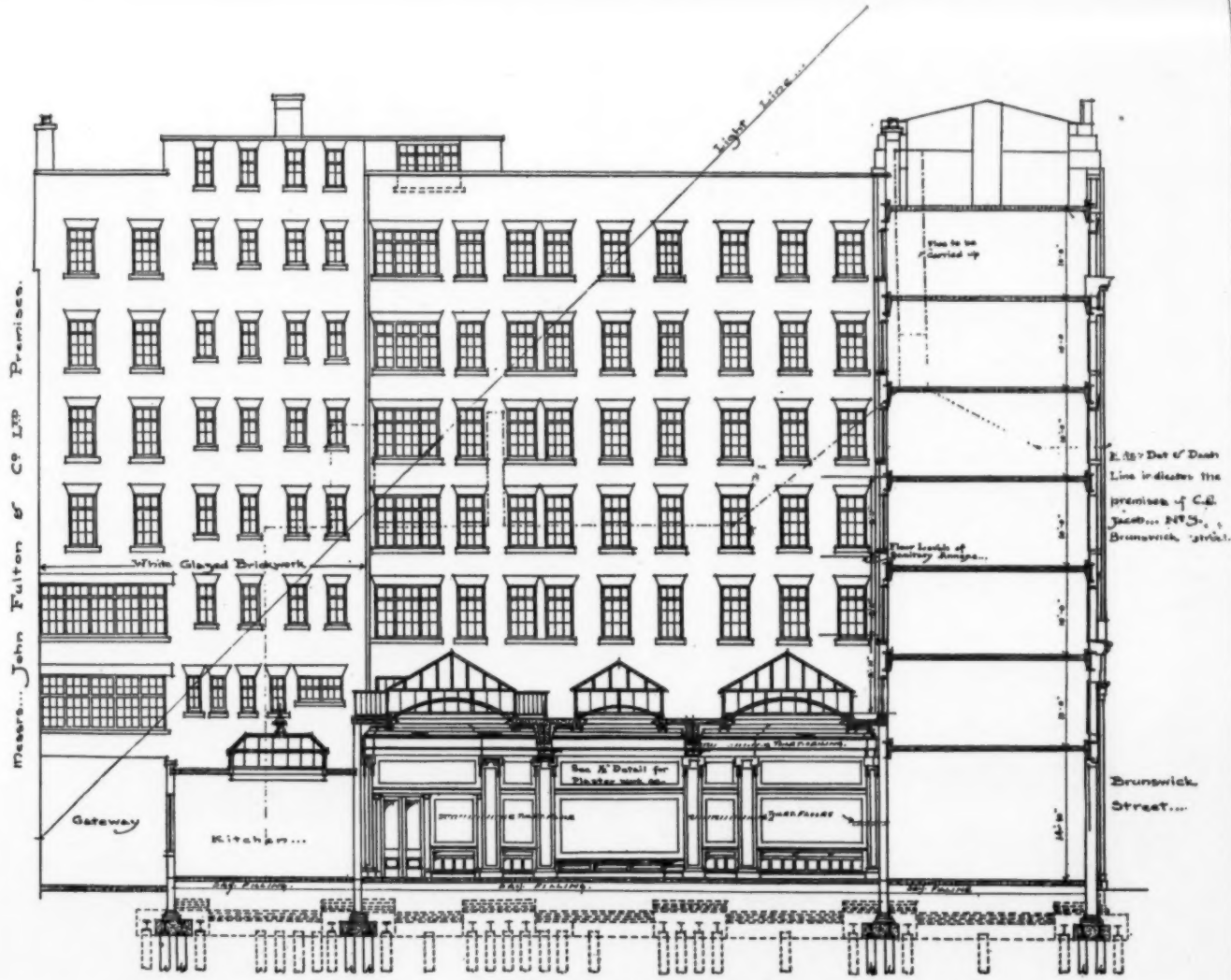
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Flue to be carried up
Floor Levels of Adjoining Premises...
Red & Dot & Dash Line indicates the premises of C.E. Jacob... Nº 3... Brunswick Street.
White Glazed Brickwork
Messrs... John Fulton & Co Ltd Premises.
Gateway
Kitchen...
See A Detail for Plaster work etc.
Brunswick Street...
DAY Finishing.

LONGITUDINAL SECTION. AB...

PRESBYTERIAN WAR MEMORIAL HOSTEL, BELFAST.

Messrs. Young & Mackenzie, Architects.

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THE LATE WALTER HENRY BRIERLEY

The death occurred suddenly at Hove, on Sunday, August 22, of Mr. Walter Henry Brierley, F.S.A., F.R.I.B.A., of York, one of the most distinguished architects of the North of England. Mr. Brierley, who was 64 years of age, succumbed to an affection of the heart, by which he was attacked about two months ago.

Born in 1862, he obtained his architectural education as a pupil in the office of his father, and afterwards as an assistant in Warrington and Liverpool. In 1885 he entered into partnership with the late Mr. James Demaine, of York, who was then carrying on a very old-established practice, which can be traced back uninterruptedly to the renowned John Carr. The latter was one of the last of the brilliant band of architects who followed Inigo Jones and Wren in the development of our beautiful English Renaissance style. Mr. Brierley, in 1918, assumed as partner Mr. James Hervey Rutherford, F.R.I.B.A., who had been associated with him for many years, and the business was then, and is still, carried on under the name of Brierley & Rutherford.

Mr. Brierley occupied the position of architect to the North Riding County Council from 1901 to 1923, and of Diocesan Surveyor for York from 1908 to 1921. He was one of the leading archæologists of Yorkshire, a prominent member of the Yorkshire Archæological Society, a Fellow of the Society of Antiquaries and other learned societies. The late Sir Wm. St. John Hope and Mr. C. R. Peers, Chief Inspector of the Ancient Monuments Department of the Board of Works, were among his friends and associates.

Mr. Brierley's architectural activities, although concentrated in Yorkshire, extended over a widespread area, and were occupied in buildings of very varied character. He was much engaged, like Carr, in the designing of large country mansions, and achieved much success therein. He remodelled and enlarged Acklam Hall, in the North Riding; Sledmere, for the late Sir Tatton and Mark Sykes; Hackness Hall, in the East Riding, for Lord Derwent; Sion Hill, near Thirsk, for Mr. Percy Stancliffe, and Normanby Park, Lincolnshire, for Sir Berkeley Sheffield. The above are notable examples of his style, and show his power at perhaps the full height of its development.

Other country house work executed by him in Yorkshire, and of almost equal importance, is to be seen at Welburn and Thorpe Underwood Halls, Grimston Court, and Jervaulx Abbey, also in Lancashire, at Hollins Hill, Accrington; while in the South of England are to be found two fine examples in Crundle Court, Dorset, and Ivorys, at Cowfold, Sussex.

Equally noteworthy is Mr. Brierley's bank work, which can be seen in the premises he erected for the Midland Bank (and other banks incorporated therewith) at Doncaster, Sheffield, Sunderland, Darlington, Newcastle, Thirsk, and other Yorkshire towns. Special mention should be made of his extension of Beckett & Co.'s bank in York, and of the large new premises at Doncaster for the Westminster Bank (with which Messrs. Beckett's business is incorporated), and which he did not live to see completed.

Mr. Brierley also designed many large and important school buildings, among which the following may be cited as typical examples of his high skill in work of this description—Poppleton-road and Haxby-road Elementary Schools, at York, the Girls' Secondary School, in Queen Anne's-road, York, and the Northallerton Secondary School.

Reference must also be made to the large amount of ecclesiastical work which was executed from his designs, and which includes the following churches: St. Philip's, Buckingham Palace-road; St. Thomas', Kensal Town; St. Peter's, Newton-le-Willows; St. Luke's and St. Chad's, York; a War Memorial Chapel at Durham, a Girls' School Chapel at Huyton, Lancs, and smaller works at Rufforth, Goathland, and in other Yorkshire villages. He also carried out the restoration of the ancient churches of Sherburn and Foston, in Yorkshire, and also designed the whole of the oak fittings and organ case at the former church, as well as the chancel screens and other church finishings and furniture at Sledmere, Snainton, &c.

There is a wide gap between churches and racecourse buildings, but Mr. Brierley's experience shows how the abilities of a clever and resourceful architect can be utilised to advantage in works of the last-named description. The extensive improvements which have been effected at York Racecourse, and which are so well spoken of by those who are acquainted with them, were carried out from his designs and under his supervision. He also prepared the scheme for the entire remodelling of the Rowley Mile Stands at Newmarket, which is now approaching completion, and designed new stands and other improvements at Lingfield and Gosforth Park. At the last-mentioned place he incorporated in his design the fine old mansion built by Paine in 1755, and made a point of retaining as much

The late Walter Henry Brierley.

of the old work as possible, and where that was inconsistent with racing requirements, to reproduce the characteristic features and peculiar "atmosphere" associated with it.

Only a small portion of Mr. Brierley's work has been mentioned, but the list is sufficiently inclusive to indicate the extent and versatility of his talents. His designs, whether conceived on mediæval or Renaissance lines, are marked by sincerity and truthfulness, sound constructional qualities, dignified restraint and an avoidance of over-elaboration, or what is best described by the somewhat hackneyed expression, "meretricious ornament." He was a master of detail, and upheld the principle that no single item, however small, in the composition of a building was outside the scope of the architect's most scrupulous care and consideration. He insisted on the employment of the very best materials and workmanship that the means placed at his disposal allowed. He had a great admiration for the craftsmanship of the past, and skilfully employed and adapted old methods to suit the special character of his designs, directing and interesting the workmen, and encouraging them to revive forgotten details of their craft, in order to secure that harmony between the design and the execution of it on which the successful portrayal of his ideas so much depended.

He worthily maintained the dignity of his profession, and was in the forefront with those who strive to uphold and elevate the standard of its aims and achievements.

ENGLISH HOMES*

The 40 pages of introduction to this book alone would be a welcome addition to the working library of any antiquarian, archæologist or architect. A careful perusal of these introductory pages will go far to equip mentally the student for a fuller grasp of the remaining 392 pages. From 1760 to 1820, when George the Third was King, was a period of great building of town and country mansions in newer styles, and of remodelling of older houses into newer forms. As Mr. Avray Tipping says: "The accession of George III in 1760 found English taste tiring of Palladian pedants and rococo designers. . . . Rome had become a cosmopolitan art centre, where not so much Palladio's interpretation of classical principles and models, but those principles and models themselves, were being studied at first hand." The author proceeds to point out that James Stuart ("Athenian Stuart") was not only in Rome, but also in Athens before he returned to London in 1755, in which year Chambers also came home from a long sojourn in Italy. Robert Adam reached Rome in 1754, and during four years of close study, "culled all that was earliest and best in architecture and decoration of the Italian Renaissance before its baroque phase." Establishing himself in London in 1758, "he rapidly made his reputation as the leading light of the new school." And so the author deals with the new school of architects and, taking them in alphabetical order, commencing with Adam and finishing with the four Wyatts—James, Jeffrey, Lewis and Samuel of that ilk—and such others as Chambers, Milne, Nash and Soane in between, he gives us epitomised biographies of some twenty-four of the principal practitioners; not, indeed, as he says, an exhaustive list of the men who produced the architecture of the day. These short biographies are aptly illuminated by illustrations, many of them full page, such as Robert Mylne's portico (1767) at Wormley Bury, Robert Adam's magnificent Hall (1762) at Kedleston, and his Tapestry Room Doorway at Osterley Park (1775), and Samuel Wyatt's staircase and main facade of Trinity House. Sir John Soane's own drawing of the Lothbury Court of the Bank of England is a sad reminiscence. What is this Court to-day, in the year of grace 1926? A heap of housebreaker's rubble and choking dust! Even as the virtuosi of 1760 were tired of the Palladian pedants, so are we presumed to be to-day tired of the architectural refinements of the late Georgian era. As with our laws, we get the architecture we deserve, and it is devoutly to be hoped that our deserts are great!

The main portion of this volume is devoted to detailed descriptions, quite superbly illustrated, of twenty-one stately English homes alphabetically arranged, from Althorp, Earl Spencer's seat (six miles from Northampton, remodelled in the days of Charles II and altered by Henry Holland in 1790), to Thomas Leverton's Woodhall Park, Hertfordshire (1788). To Strawberry Hill, that notorious exposition of the Gothic Revival, are devoted twenty pages, interspersed with thirty-five illustrations, comprising views, Gothic architectural details, pictures, furniture, faience and other articles of virtu. In the section dealing with Mersham-le-Hatch, Kent, we have items illustrated which will delight the furniture connoisseurs—veritable furniture supplied by Chippendale and Haig and facsimiles of correspondence under the hand of the great Thomas Chippendale, together with designs for mantelpieces by Robert Adam and letters from the architect relating to the building and decorations. This is but to touch lightly on a book of wide scope and absorbing interest.

Architect, Technical School, Killarney.

The committee of the new technical school in Killarney have appointed as architect Mr. John Galvin, of Killarney.

*Period VI. Vol. 1. Late Georgian, 1760–1820. H. Avray Tipping, M.A., F.S.A. (Published by *Country Life*.) £3 3s. net.

ANGLO-SAXON ARTS*

IT is a pleasure to welcome this first volume of a new and revised edition of Professor Baldwin Brown's *Arts in Early England*, which has become an indispensable authority for our national story. "The present volume, the first of the series, was and is intended to provide in a reasonably attractive form the information which a reader of general culture but not a specialist would find useful as an introduction to the study of Anglo-Saxon monuments." The volumes for the most part are the result of direct personal investigation of the monuments. "The work that lies behind the successive volumes has been carried on not so much in muniment rooms, or even in libraries, as under open skies in lovely English villages, and amongst objects in the galleries of museums." The present volume, however, furnishes a general historical background for the study. It deals with such questions as the introduction of Christianity and the Roman age in Britain, pagan survivals, the origin of towns, Saxon settlements, erection of crosses, building of the earliest churches, the relation of churchyards to churches, Rector and Vicar, the cult of martyrs and consequent turning of churches into sepulchres, castle enclosures and mounds, &c. The nine chapters of the volume are entitled: "The Character of Mediæval Art," "The Country and the Town a Thousand Years Ago," "The Castle, the Church, and the Monastery," "Christianity in Roman and in un-Romanised Lands," "The English Missionary Bishop and his Monastic Seat," "The Saxon Monastery in its relation to Learning and Art," "The Village Church, the Circumstances of its Foundation," "The Village Church, its Constitutional History," "The Village Church in its relation to the Life of the People."

As for "criticism" in the ordinary sense, I can only say that the first chapter seems hardly in close enough relation to the rest of the work; to me it formed a difficult entry to what follows, but the reader, not the writer, may be wrong. From such a harvest of learning I will only pick out and comment on one or two minor points which have specially interested me while reading the volume.

Some general references to that fascinating subject, the great Crosses, come into this introductory volume. "The sign of the Cross was set up to hallow the earliest preaching stations; and before churches were built in wild and remote places . . . the crosses were replaced later on, but only gradually, by churches." A passage from Joceline's account of the mission work of the Celtic St. Kentigern, who preached in the Glasgow district in the latter half of the sixth century, shows that "The saint had a habit of erecting 'the triumphant standard of the cross' in places where he had dwelt for any length of time, or had won marked success in conversion. Such notices are of importance in connection with the whole subject of stone crosses which will occupy us on a later occasion. The study of British churchyard crosses must start from these passages in the life of Kentigern. . . . An illustration of the same practice from the heart of Wessex is to be found in the life of the English Willibald. When Willibald, born 699, was three years old he was consecrated to the service of God at the foot of a cross which stood near their dwelling, 'for it is the custom among the Saxon people to have for daily prayers not a church but the sign of the Holy Cross set up aloft.'"

The reference to "the triumphant standard of the cross" is particularly interesting, for some of the earliest existing crosses, that of Bewcastle, for example, are called victory beacons or standards in the inscriptions which they bear. It seems next to impossible to get the importance of these great monuments and their early date understood; thus in Mr. Trevelyan's admirable new History of England the poem, the *Dream of the Road*, which was partly inscribed on the Ruthwell Cross, c. 670, is ascribed to "a Christian poet, probably a Northumbrian of the eighth century."

Some months ago I brought out the evidence which, I believe, the great Ruthwell Cross bears of having been related in the minds of its authors to the thought of a sky-shaft and world-tree (*The Builder*, February, 1926). Since this time I have been gratified to find in Dr. A. B. Cook's great new volume of *Zeus*, a section dealing with the correspondences between the imagination of a world tree and the Christian high crosses. The Gosforth cross is illustrated in this connection and the interesting pattern carved on its round shaft is said to imitate bark.

In an interesting section, Professor Baldwin Brown indicates what intimate knowledge of the ways of our old ancestors may be drawn from a study of Saxon Charters, which give the boundaries of estates with great detail. Kemble is quoted as saying that "many a manor may even at this day be described by boundaries given in a grant by Alfred or Edgar. A hill or stream, a remarkable tree, furnished points by which the boundary line was directed; a pit, or well, or the mound of an ancient warrior served the purpose." Some years ago, I lived in Hampshire for a time, and found great interest in tracing out such a Saxon boundary, which took me to out-of-the-way points along dykes, and near a tumulus on a down, where I seemed to get into close imaginative contact with the fore dwellers. An extended study of these details would, it is clear, yield many informing results. A week or two ago I was looking at a printed version of a Crediton Charter (early eighth century, I think), when I observed a point which is quite a little find—if it has not been found before. One of the boundary marks was given as Grendel's Pit. Now Grendel was the fierce monster which hid in a mere with whom Beowulf fought in the story which is the earliest known work of English literature. It would be too much to suppose that the pit, at a place which can still be identified, I believe, was the original Grendel's mere of the story; but the name "Grendel's Pit," used in however allusive a way, must show that the story was known in the Crediton district about 700 by all the Saxon newcomers. Beowulf must have been a story known to everybody for Grendel's name to have been applied in a place-name in that way.

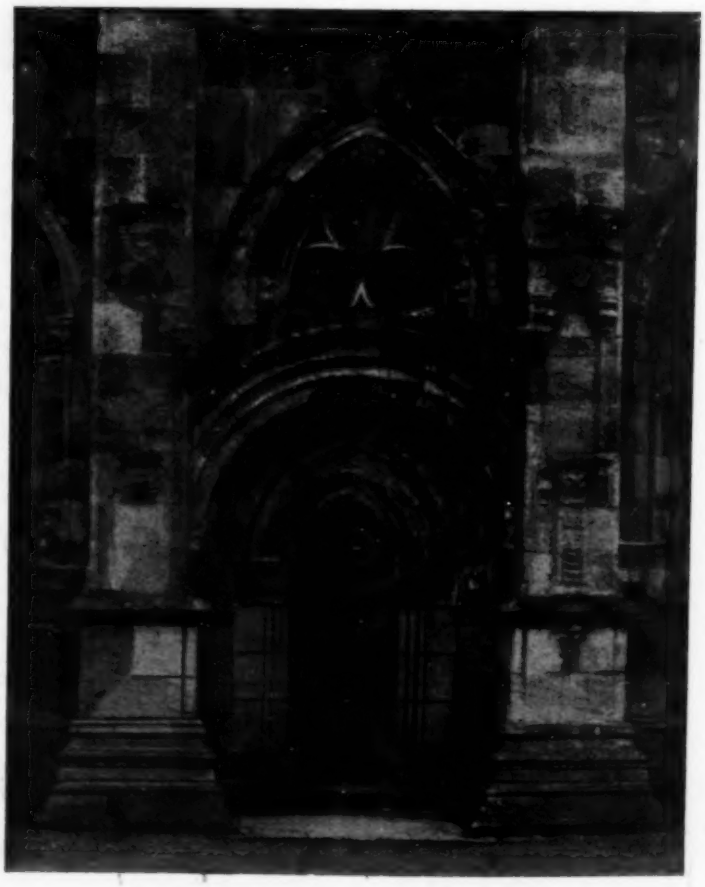
In regard to old names, the author writes: "Canon Isaac Taylor gives a couple of pages of names of families or clans 'celebrated in legendary or historical, records of the Teutonic races,' traces of which are to be found in English place-names, and it is with a glow of patriotic pride that we note among these no fewer than five royal races as well as 'the noblest race of the Goths.'" Some member of the great clan of the Billings most probably, I suppose, left his name to Billingsgate in London.

Professor Baldwin Brown cites the Bayeux "Tapestry" (Embroidery) several times as an authority, but in the volume before us he does not state that it was almost certainly an English work. I say this so as to record the fact that French authorities are coming to agree that this must be the fact. Some years ago I set out the reasons which convinced me that this was so in the *Archæological Journal* (vol. lxxiv), and my friend, Mr. John Bilson, has recently sent me a reference to an article by "the best liturgical authority in France," which gives reasons why the embroidery could not have been a French work.

No reader, I believe, could wander through this excellent volume without picking up interesting facts by the way. I note in regard to Westminster Abbey that "Dunstan had ordained that the monks of Westminster might arrange with any non-inmate to grant him burial at his death within their precincts." The reference given is Birch's "Charters," No. 1,050. Again, there is this concise summary of its later history: "Westminster was turned from a Benedictine monastery into a collegiate church at the Dissolution; in 1540 it was made a cathedral; in 1550 again a collegiate church; from 1550 to 1560 once more a monastery; it was finally settled as a collegiate in 1560."

W. R. LETHABY.

*"The Arts in Early England." By G. Baldwin Brown, M.A., LL.D., F.B.A., Watson Gordon Professor of Fine Art in the University of Edinburgh. Vol. I. The Life of Saxon England in its Relation to the Arts. (London: John Murray, Albemarle-street, W.1.) 21s. net.



Roslin Chapel: South Door.

ROSEWELL R.C. CHURCH, MIDLOTHIAN

BY A SCOTTISH CORRESPONDENT.

"Organic Gothic, let me repeat, must last for ever as a theory of building; phenomenal Gothic, as it in fact existed in the past, was possible only to the moment which produced it."—LETHABY.

"Architecture does not consist in beautifying building, but, on the contrary, in building beautifully, which is quite another thing."—SIR THOMAS JACKSON.

MR. ARCHIBALD MACPHERSON, F.R.I.B.A., F.S.A. (Scot.), in his new church at Rosewell, has achieved the distinction of not only giving us organic Gothic, but also a beautiful building. The economic necessities of this age has forced us, for the most part, to dispense with towers, buttresses, pinnacles, crockets, hood moulds, niches and many other embellishments with which a pre-war age decked up its ecclesiastical structures. This necessity has compelled us to concentrate our attention on questions of mass, composition, beauty of outline and a simple relation of parts. Already architecture is beginning to benefit, and in the natural course of evolution in design it is certain that a new and strong tradition will evolve on both Gothic and Renaissance lines, entirely free from meaningless and useless enrichments.

Rosewell church strikes a new note of simple dignity and shows that even common brickwork in the hands of a master builder can be made to possess all the religious feeling and spiritual significance usually found mainly in elaborately carved and moulded stonework.

Roslin Chapel, the most richly carved and decorated specimen of Scottish Gothic, is less than two miles distant from Rosewell church, and it is interesting to contrast the richness of the one with the simplicity of the other and to find that both possess that religious atmosphere and spirituality of handling without which a church is merely a building. As pure Gothic, Rosewell church is more organically so than Roslin, with its mixed trabeated and arcuated motifs. Rosewell church, with its background of trees and the Pentland Hills, is romantically situated and will gather in the course of passing years that quality of finality and eternalness which is so characteristic of all good architecture.

Without possessing any features which can be called detail in the architectural sense, as we generally understand such, it is a fine example of ecclesiastical art. To those who have studied the brickwork at Ravenna, Venice, Verona, Winchester, Cambridge, Tattershall, and the fine old Tudor work of Norfolk and Suffolk this example of the simple use of common brick has its message and its lesson. So long as we have men with us who can handle this much-despised, though one of the oldest, mediums in this masterly manner we need have no fear for the future of architecture.

The total length of the church from east to west is about 122 ft., while over the nave and aisles it measures about 45 ft. within the walls. There are two round-headed doorways in the west front, which is Romanesque in feeling. The small apsidal chamber at the centre of the west front contains the baptistry, which is separated from the nave by an iron grille. Over the baptistry and entrance porches is a west gallery which has the apsidal treatment carried through it; the apse being finished with a gable. The stepping of the staircase windows is effective and the general fenestration of the west front is fresh in treatment and effective in composition. The south transept is projected out and contains a small hall.

The placing of the belfry at the east end is very happy as seen from the south-west, and its grouping with the two side chimneys and stepped gable is original and finely balanced. From the east the presbytery bulks rather largely and is somewhat domestic in character, but its main front is in harmony with the church. The bold use of diagonally set brick piers in the nave and transepts with bull-nosed angles and angle corbelling for caps is daring and successful, while the simple brick pulpit and chancel rail fall naturally into the general scheme. The font is also cleverly designed in common brick.

Rosewell R.C. Church, Midlothian: East End and Presbytery.
MR. ARCHIBALD MACPHERSON, F.R.I.B.A., F.S.A. (Scot.), Architect.

We do not remember seeing any modern example of brickwork which combined so successfully, simplicity with an effect of richness and completeness. The treatment at the wall-head looks somewhat unfinished, but the recessing above corbelling gives an appearance of strength to the simple timber roof. The east end of the chancel is particularly beautiful in arrangement, showing a fine use of common concentric brick arches. The planning, with the recess behind the high altar reached by a two-way stair and lit by side windows is masterly, and seen in certain lights seems to make the high altar glow as if lit by a heavenly radiance. The lines of composition and scale and relation of parts of both wall arcades and the flying arches behind the high altar are particularly fine and have a freshness and originality which satisfies the trained mind. The whole is somewhat marred by the large radiators and the unsuitable character of the carpets and altar draperies. The bell is rung from the recess behind the high altar.

The use of so many different types of arches, semi-circular, segmental, pointed and corbelled, in no way interferes with the unity of design, which is rather remarkable when we think how traditional we usually are in the use of arches. In the transepts we find another surprise in arches. These contain half-arches and three-quarter arches, with open spandrils. One has to see such things done before he can believe in their success. On paper, they would distress a purist.

The north transept contains the Lady Chapel and behind the Lady Chapel is the sacristy with an entrance to the sanctuary. The south transept contains the Chapel of the Sacred Heart, with the organ and choir loft recessed in the upper portion. The ironwork of chancel rail and baptistry is simple and good in lines, but is rather wanting in weight in the section.

The brick builder of this church also deserves a word of honourable mention.

Proposed Aerial Ropeway in Kent.

A proposal for conveying coal from Tilmanstone Colliery to Dover Harbour, a distance of over seven miles, was mentioned at a meeting of Eastry Rural District Council a day or two ago.

Mr. Archibald, architect to the Council, said that the proposed method of transport was one of the coming things in connection with the industrialisation of East Kent, and he had no doubt that the promoters would make a good job of the ropeway. It would, however, pass over a great many highways, and the Council should ensure that it was at sufficient height above the roads, and that other safeguards were provided. It was mentioned that the aerial would pass over eighteen roads and footpaths in Eastry rural district alone. The Council will consider the application again at the next meeting.

SOCIETIES AND INSTITUTIONS

THE FACULTY OF ARCHITECTS AND SURVEYORS.

THE general meeting of the Faculty of Architects and Surveyors was held at Prince Henry's Room, 177, Fleet-street, E.C. 4, on July 27, when the following gentlemen consented to serve on the first Executive Council of the Faculty:—

Chas. F. Anderson, architect and surveyor, St. Andrews (Fife).

A. Barlow, A.M.Inst.C.E., architect and surveyor, City Engineer and Surveyor of Ripon.

G. W. Booth, architect and surveyor, North Bromsgrove U.D.C.

E. H. Chandler, quantity surveyor, London.

Colonel H. J. T. Duncan-Teape, surveyor, London.

J. A. Haigh, A.M.I.S.E., A.R.S.I., M.I.H., C.E., surveyor, engineer and housing architect, Cudworth U.D.C. (Yorks).

C. J. Innes-Baillie, F.R.G.S., F.R.S.A., F.R.C.I., surveyor, London.

J. P. Jenkins, architect and surveyor, Borough Surveyor of Shaftesbury.

C. H. Lawton, A.M.Inst.C.E.I., M.I.Struct.E., L.R.I.B.A., surveyor and chartered architect, Warminster ((Wilts).

Edwin Lewis, architect and surveyor, Manchester.

A. E. McEwan Waghorn, F.S.I., F.I.Arb., architect and surveyor, London.

E. J. Michaux, surveyor, London.

H. Langford Moyle, architect and surveyor, London.

W. G. Percy, architect and surveyor, London.

J. T. Proffitt, architect and surveyor, Manchester.

George Roberts, architect and surveyor, Bradford.

C. K. Shepherd, architect and surveyor, Birmingham.

J. N. Singleton, P.A.S.I., M.R.San.I., M.Inst.M.C.E., architect and surveyor, Ashburton (Devon).

George Spencer, F.S.I., F.I.Arb., architect and surveyor, London.

W. F. T. Stewart, architect and surveyor, Glasgow.

The following resolutions were passed:—

(*a*) That a President be elected by the Council.

(*b*) That three scrutineers be elected by the Council to examine future applications for membership, with the assistance of the President and the Secretary.

(*c*) That the Council be given authorisation to choose the best of three designs for the certificate, which members present kindly offered to submit.

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ILLUSTRATIONS

New Buildings for Messrs. Cadbury Brothers, Ltd., Bournville.

These buildings, now in course of erection at Bournville, occupy a site adjacent to the works, covering an area 274 ft. long by 200 ft. wide. The main façade faces Bournville-lane, a wide and beautiful avenue lined with trees and shrubs. The front shown in the perspective drawing faces the men's recreation ground, where all kinds of sports are held, which fact partially accounts for the balconies on this front, from which an excellent view of the grounds can be obtained.

The building is four stories high, including lower ground-floor. The lower ground-floor contains dressing-room accommodation for 4,000 girls and 1,000 men. The dressing-rooms are fitted with metal tube clothes racks, through which low-pressure steam is circulated. These not only heat the apartment, but act as drying-rails for the clothes, which are hung on the rails. Below the hanging rails are lockers for boots and shoes, also heated by steam. It is estimated that on a wet day the method adopted will remove half a ton of water in 4½ hours from the clothes.

The ground-floor contains the principal dining-rooms and terrace restaurant, the latter facing the men's recreation grounds, with large opening French casements on to a paved terrace. In front of the terrace there is an open-air tea garden with bandstand, &c. The entire ground floor, excepting the concert hall, is really one great open area, the various sections being separated by means of folding glass partitions, so that the respective sections can be made self-contained when desired. This arrangement has the further advantage that the whole area can be flushed with fresh air between meals by means of opening windows on three sides.

The kitchen is 124 ft. by 34 ft., and is centrally placed and surrounded with steam hot-plates forming counters on three sides, with the result that rapid service is ensured, this being an absolute necessity, seeing that between 5,000 or 6,000 hot meals of three or four courses have to be served and completed within the hour. A concert hall, seating 1,200 persons, is also provided on this floor, with stage, proscenium and great organ.

The first and second floors contain further dining-rooms, including staff dining-rooms and lounges, reading-rooms, library, directors' dining-room, club-rooms, &c.

At the north-east corner of the site are the doctors' and dentists' departments. The medical department is fully equipped with all modern hospital appliances and requirements, comprising a series of examination-rooms, dressing and operating rooms, also waiting, rest and recovery rooms. The dentists' department contains several operating-rooms, all fitted up with the latest and most up-to-date apparatus, also waiting and rest rooms.

The entire plan has been schemed so that the movements of between 6,000 and 7,000 people could be readily and rapidly dealt with, without causing congestion at any part, the arrangements being such that the traffic to the various rooms is conducted in strictly defined currents without crossing. Special means of heating and ventilating the building have been adopted throughout, and one of the outstanding features of the scheme is the high standard of lighting of every apartment. In the ventilation of the kitchen all cooking appliances are placed under canopies, and from the latter burnished aluminium ducts are led to a main duct suspended from the ceiling, which in turn is carried to an upcast shaft with a centrifugal fan, thus drawing off all steam and fumes of cooking and giving a pure and cool atmosphere in the kitchen. This arrangement gives eight changes of air per hour and draws the air through the surrounding rooms, so that the odours from the kitchen cooking are prevented from reaching the dining-rooms. The glass roofs of the ground floor dining-rooms are so arranged as to prevent direct sun-rays beating on the glass, which would cause the rooms to be uncomfortably hot in warm weather. Large vertical sashes extend the entire length of the roofs, forming a clerestory. These are made to open by mechanical means, so that a large portion of the roof can be thrown open in fine weather. By means of corridors and bridges communication between the dining-rooms and works is all under cover.

It is the aim and the purpose of the company to make these buildings as complete as possible as regards comfort and convenience, and to provide means for healthy entertainment and recreation for the benefit and well-being of their employees, and no expense has been spared to render the buildings in every way worthy of the objects the directors have in view.

The building is faced with Coneygre facing bricks of tones varying from russet red to dark purple. The stone is from Hollington quarries and is of a creamy-white tone. The finishings of the principal apartments are of Austrian oak. Wood-block maple flooring has been largely used in the various rooms. All windows are of teak. The approximate cost of the scheme is about £300,000.

The principal contractors are as follow:—General contractor, William Bishop, King's Heath, Birmingham. Steel work, Braithwaite & Co., Ltd., West Bromwich. Heating and ventilating, Ashwell & Nesbit, Ltd., Leicester. Electric fittings, the General Electric Co., London. Sanitary fittings, Doulton & Co., Paisley. Iron railings, Walter Macfarlane & Co., Saracen Foundry, Glasgow. Seating in concert hall, the Bennet Furnishing Co., Glasgow and London. Vacuum Cleaning Plant, Frame & Barr, Glasgow. Kitchen appliances, Carron Co., Falkirk.

Mr. W. Simpson, L.R.I.B.A., surveyor to Messrs. Cadbury is acting as supervisor of the work. The architect is Mr. James Miller, A.R.S.A., F.R.I.B.A., 15, Blythswood-square, Glasgow.

Presbyterian War Memorial Hostel, Belfast.

The building, which is seven stories high, is situated at the corner of Howard & Brunswick Streets, is of steel-framed construction throughout, with reinforced concrete floors, internal walls of brick, with Ballochmyle sandstone for the two façades to Howard and Brunswick streets, the whole fabric being fireproof. Influenced by the fenestration required, an early Georgian style giving breadth and simplicity has been employed, contrast to the vertical lines on the Howard-street elevation being provided by a balcony in the centre of wrought iron scroll work. The corner is emphasised by projections on both fronts, finishing with pediments. Flat pilasters finishing with symbolical torches carved in low relief extend to the main cornice level at the sixth floor. The two entrances have the Burning Bush carved over each, while emphasis to the rectangular lines of the building is given by white pointing, and character to the pavilions by carved cartouches at the roof level.

The planning was influenced by the four shops fronting Howard-street, and the dining-room, 58 ft. × 40 ft., which is top-lighted from the light well at the back, having hall approaches with stairs and lifts from both streets. Access to the kitchens and store-rooms is obtained by the common laneway from Howard-street. Three of the shops extend to the mezzanine floor, the remainder of this floor being taken up with administration offices, reading and writing rooms, and toilet accommodation.

The first to the sixth floors roughly repeat, each averaging 25 bedrooms, with baths and toilet accommodation complete. The first and second floors are "blind" to the Brunswick-street staircase, except by emergency doors with keys in glass boxes alongside; while the third, fourth, and fifth floors are similarly treated on the Howard-street stair. The Warden's suite of rooms is on the fifth floor, the matron's on the fourth, while on the second floor are the rooms for missionaries at home on furlough, given as a memorial to the late Dr. Park.

The roof is a flat asphalte deck laid out as a garden, with flowers and plants in tubs. The panelling to the dining-room is of teak, the mantelpiece being of stone with commemorative tablets in a central panel. The floors generally are of oak wood block, that in the dining-room being of teak, while the halls, kitchens, offices, and toilets are carpeted with terrazzo. The building is heated by a low-pressure hot-water system, the radiators in the dining-room being concealed behind the panelling. Steam is generated for the domestic hot-water supply and cooking in a Spencer Bonecourt gas-fired boiler. The building is designed to give the minimum amount of upkeep, and has been inspected and approved of by the fire brigade chief as to ample exits and appliances in case of emergency.

The building was designed by Messrs. Young & Mackenzie, chartered architects, Belfast.

The contractors for the superstructure, Messrs. F. B. McKee & Co., Ltd., Shore Road, Belfast.

For the piled foundations, Messrs. W. J. Campbell & Son, Ravenhill-road, Belfast.

For the steelwork, Messrs. Jas. Allen, senr., & Sons, Ltd., Glasgow.

Composite steel windows, bronze shop fronts and bronze lettering, Messrs. H. Hope & Sons, Ltd., Smethwick, Birmingham.

Plumbing and electric lighting, Messrs. J. Dowling & Sons, Ltd., 5, Upper Queen-street, Belfast.

Electric passenger and service lifts, Messrs. Waygood-Otis, Ltd. Ulster agents, Messrs. Wm. Coates & Son, Ltd., Belfast.

Wood-block flooring, Messrs. Jos. F. Ebner, Stewart-street, Cubitt Town, London, E.14.

Terrazo flooring, Mr. A. N. McClinton, 8, College-square, East Belfast.

Stonework, Messrs. J. Jamison & Sons, College Park Avenue, Belfast.

Tiling, Messrs. Norman MacNaughton & Sons, Ltd., Corporation-street, Belfast.

Asphalte, Messrs. F. A. Porter & Co., 13, Queen's-square, Belfast.

Heating plant and kitchen fittings, Messrs. Musgrave & Co., Ltd., St. Ann's Ironworks, Belfast.

Electric dishwasher, Messrs. Staines' Kitchen Equipment Co., Ltd., 131, Victoria-street, Westminster, S.W.1.

Hardware, Messrs. Riddels, Ltd., Donegall-place, Belfast.

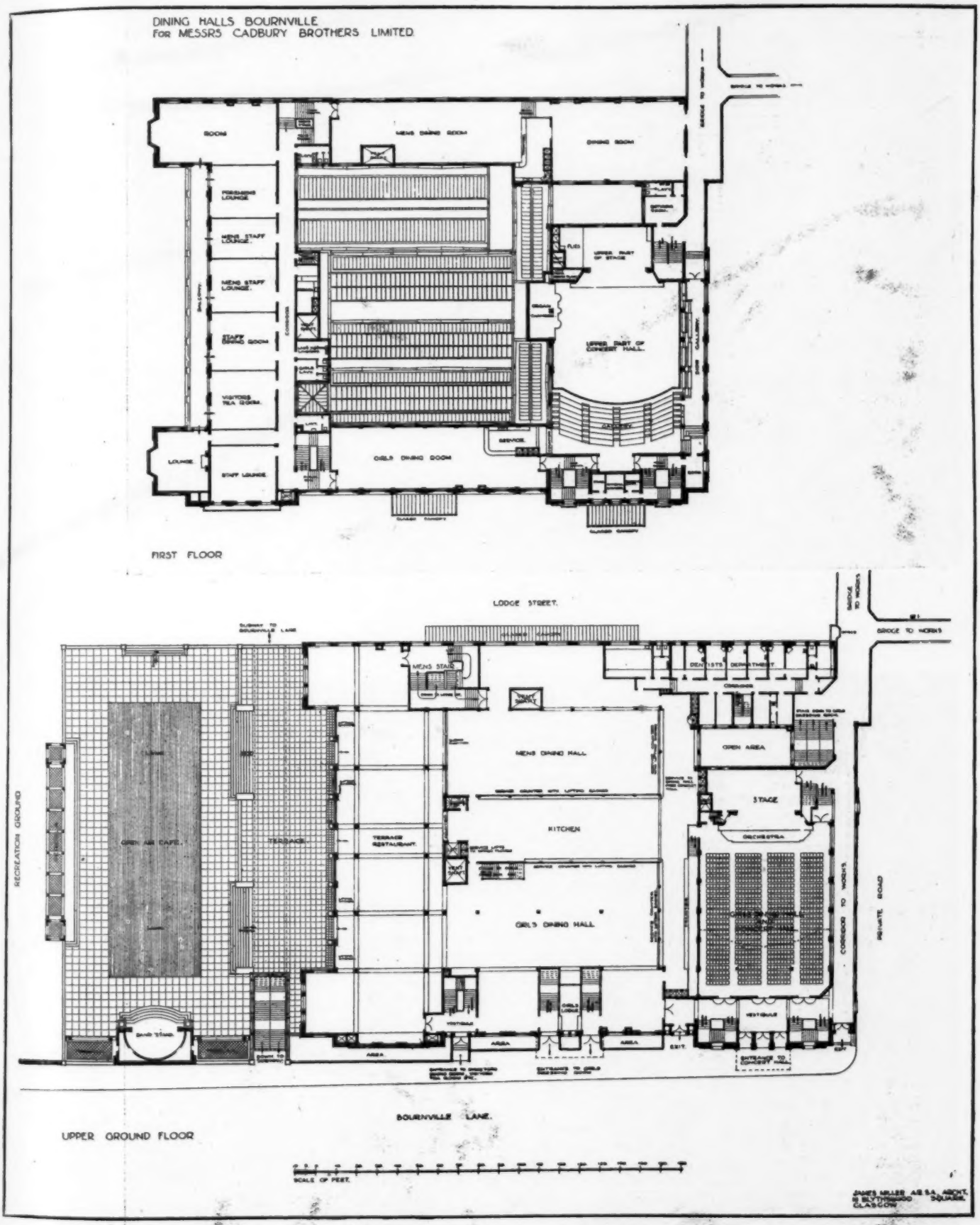
Fire extinguishers, Messrs. Mather & Platt, 30, Rosemary-street, Belfast.

Carving, Messrs. Purdy & Millard, 21, College-square, North Belfast.

Roof garden, Mr. Sandy Dickson, Dundonald, Belfast.

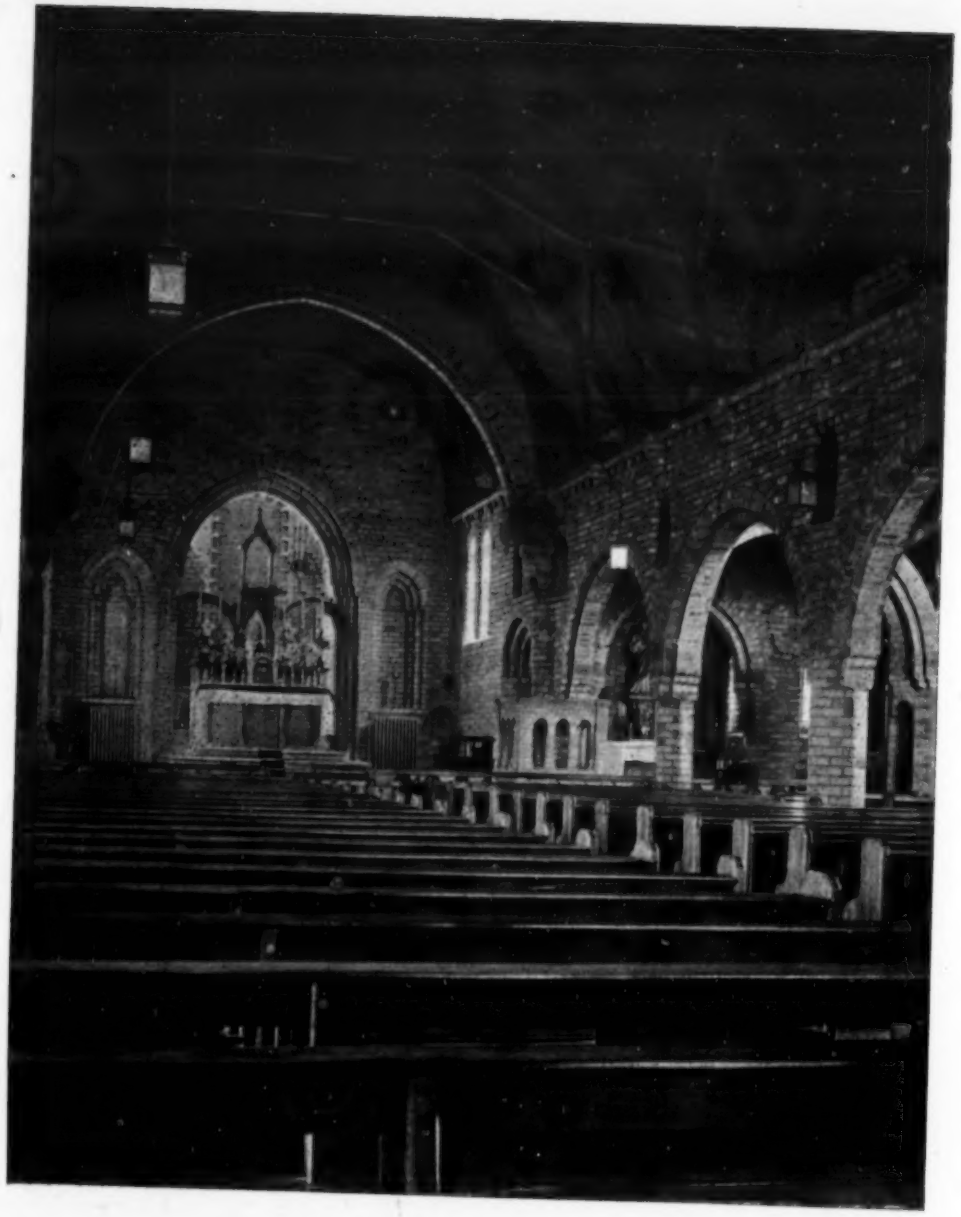
The quantities were prepared by Mr. Acheson Ferguson, Scottish Provident Buildings, Belfast.

Mr. Walter Pleasance, M.I.E.E., 44, Wellington-place, acted as consulting electrical engineer.

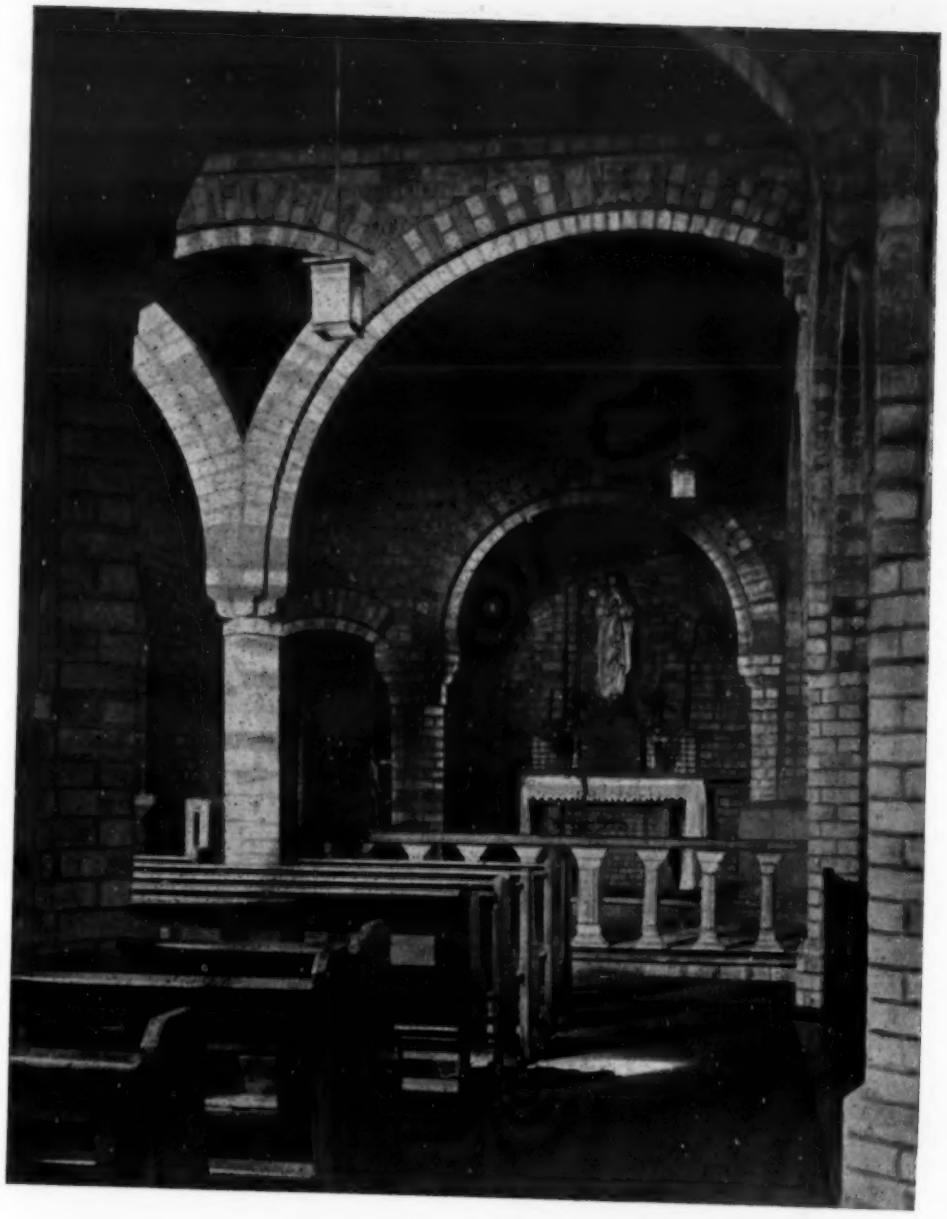


New Dining Halls, Bournville.

MR. JAMES MILLER, A.R.S.A., F.R.I.B.A., Architect.



NAVE, LOOKING EAST.



NORTH TRANSEPT AND LADY CHAPEL.

Rosewell R.C. Church, Midlothian. MR. A. MACPHERSON, F.R.I.B.A., F.S.A. (Scot.), Architect.

Presbyterian War Memorial Hostel, Belfast. MESSRS. YOUNG & MACKENZIE, Architects.

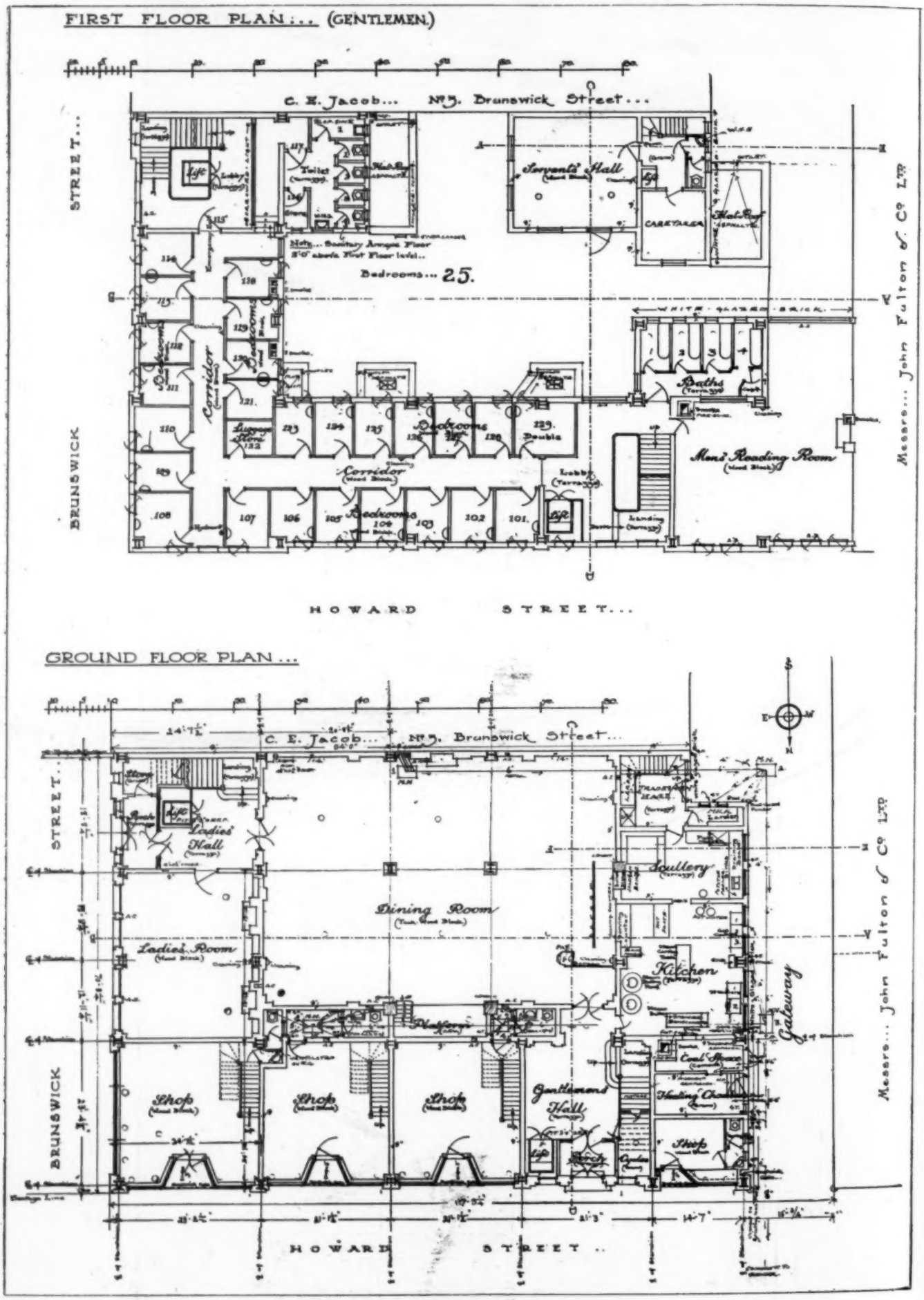
The Royal Westminster Ophthalmic Hospital: Revised Design. Messrs. Adams, Holden & Pearson, FF.R.I.B.A., Architects.

[The Competition Drawings and description were published in *The Builder*, May 21.]

Proposed Entrance Gates and Piers, Imperial Service College, Windsor.

MR. CLYDE YOUNG, F.R.I.B.A., Architect.

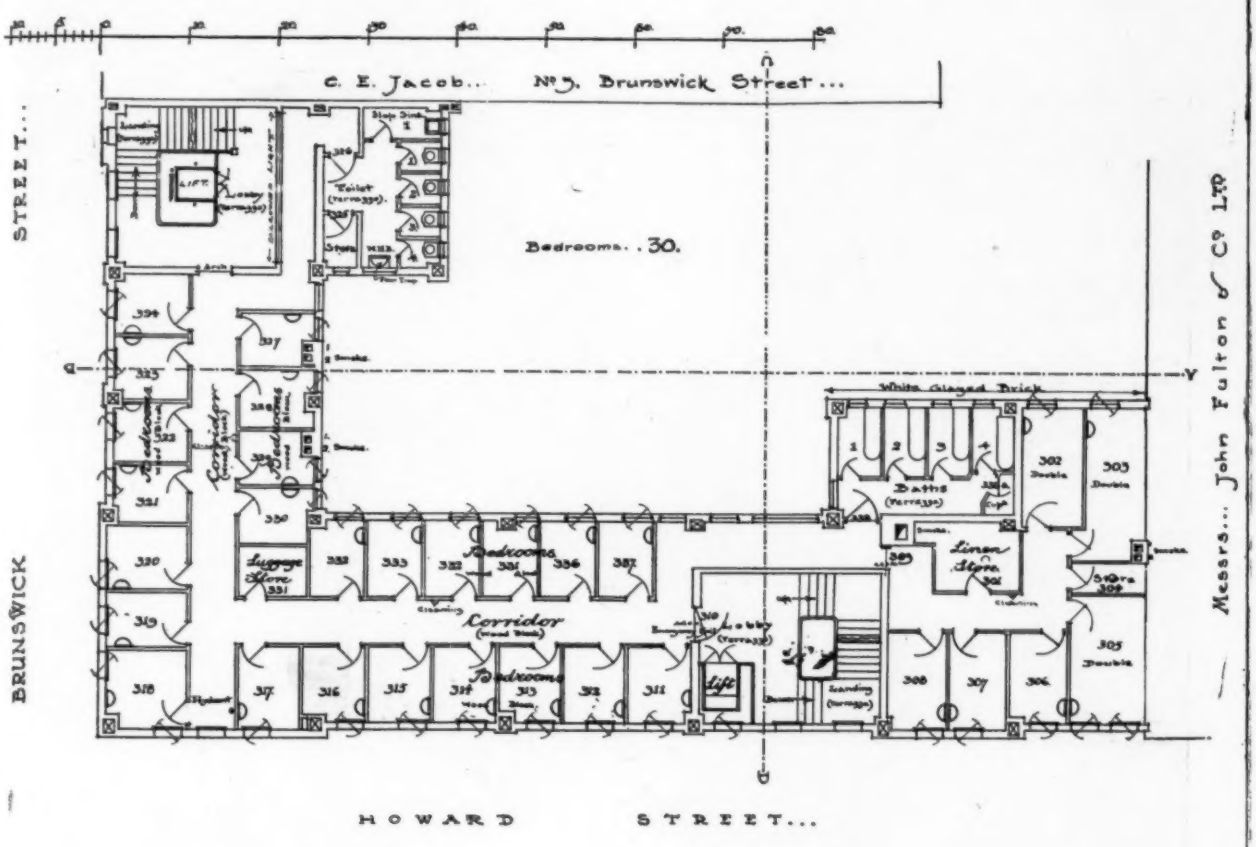
[The illustration shows the new entrance for The Imperial Service College with wrought-iron gates and stone piers. The entrance is set back from Alma-road about 12 ft., with curved wings in narrow brickwork, having a stone plinth and capping. The piers are being executed in Clipsham stone. A wicket gate for foot traffic is provided on either side of the carriageway, with a porter's lodge. The carriageway and footpaths are separated by a wide grass verge planted with groups of trees.]



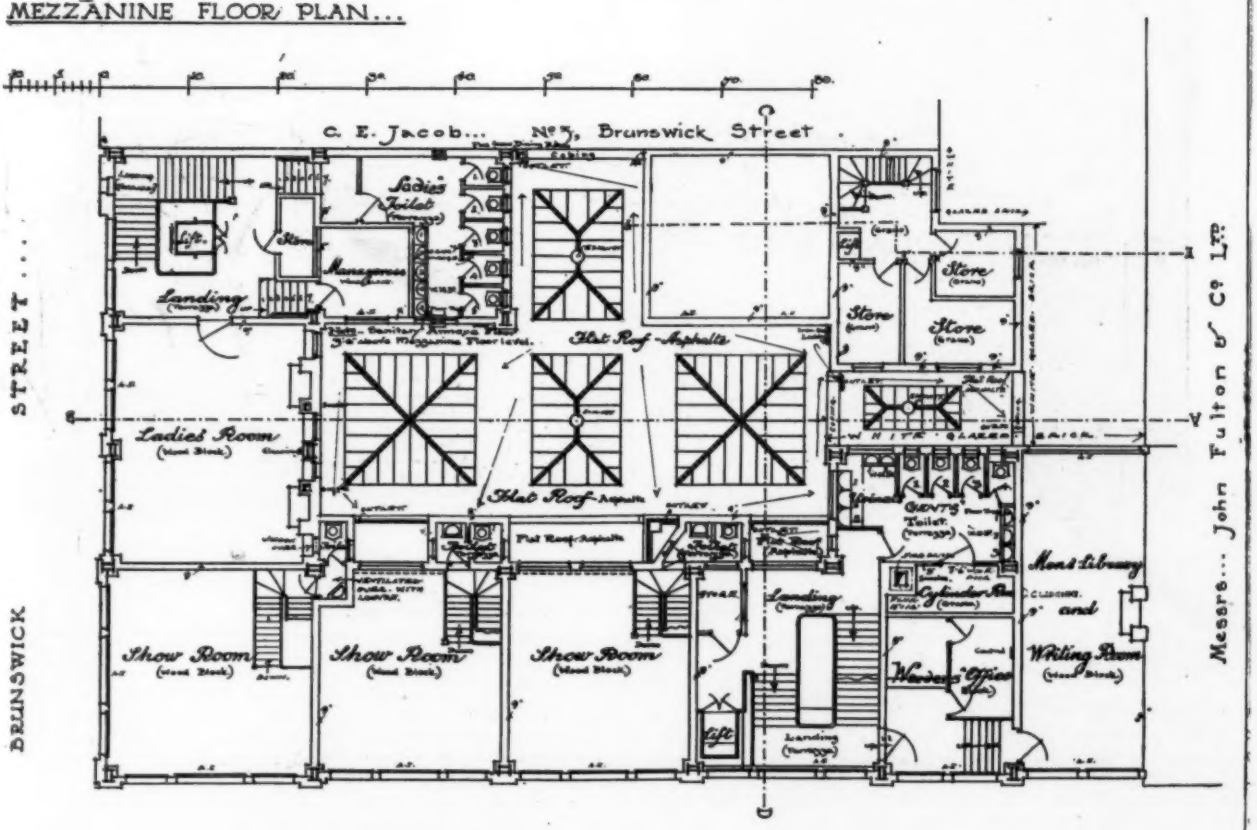
Presbyterian War Memorial Hostel, Belfast.

MESSRS. YOUNG & MACKENZIE, Architects.

THIRD FLOOR PLAN... (LADIES.)

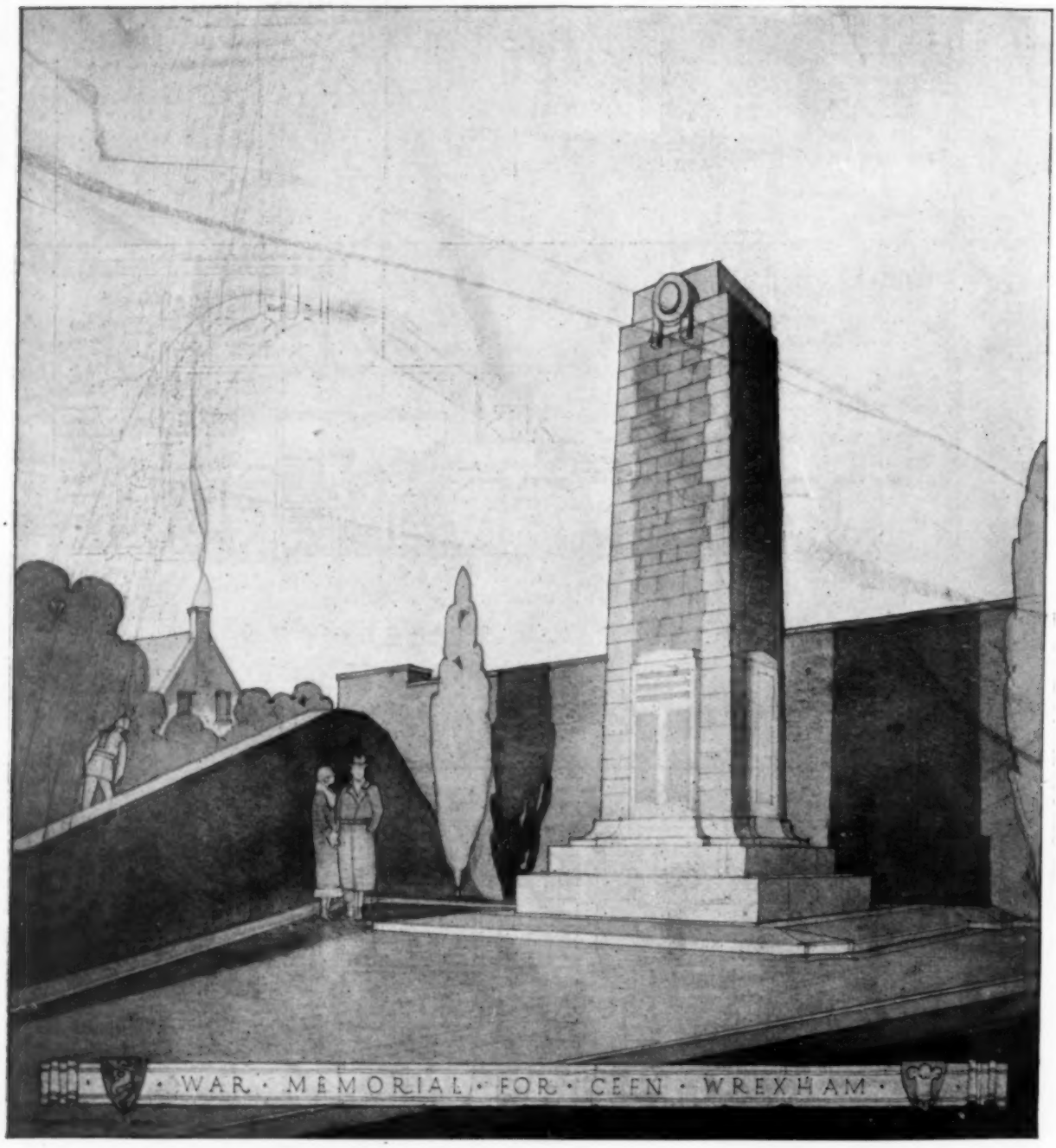


MEZZANINE FLOOR PLAN...



Presbyterian War Memorial Hostel, Belfast.

MESSRS. YOUNG & MACKENZIE, Architects.



Cefn War Memorial, Wrexham, North Wales.

MR. F. HAMER CROSSLEY, A.R.I.B.A., Architect.

THE site was originally the corner of an orchard bounded by Hill-street on the one side and Plaskynaston-lane on the other side. Random rubble walls, 12 ft. high, enclose the land, and the lay-out for the memorial involved the demolishing of these for a distance of 50 ft. either side from the corner and the erection of a new enclosing wall at rear.

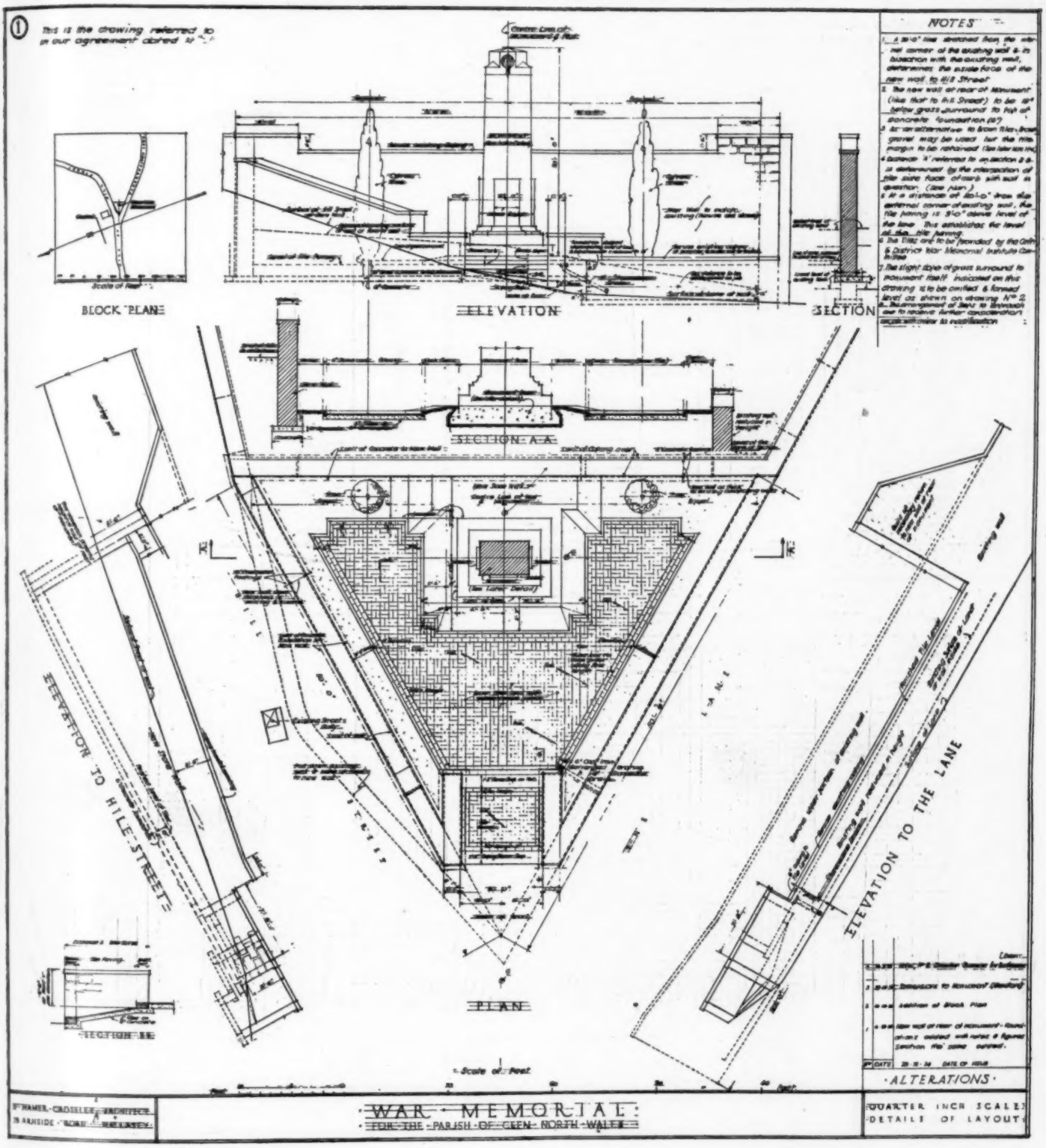
Hill-street is very steep, but Plaskynaston-lane is comparatively level, so ramps in the walling were found necessary to make a satisfactory junction between the existing and new work.

This rear wall, together with the low wall to Plaskynaston-lane (built in the same position as the high wall demolished), and that to Hill-street (built on a new line in order to give a symmetrical site and improvement to road), is carried out in the same stone (Cefn stone), as the existing, but is dressed with a scutched finish. The steps to the approach are York stone and the special paving bricks floated on 6 in. concrete were made by Mr. J. C. Edwards, of Ruabon. The rest of the lay-out is turfed.

The monument is 21 ft. high, built of Cefn stone (tooled surface), 12 in. on bed, and filled with concrete, through stones at intervals. The name panels are in greenstone and were carried out by Mr. Tyson Smith (Liverpool); letters incised and cream painted. These panels are let into the wall some 2 in. and are held secure by copper cramps. Mr. Tyson Smith was also responsible for the wreath motif in Cefn stone.

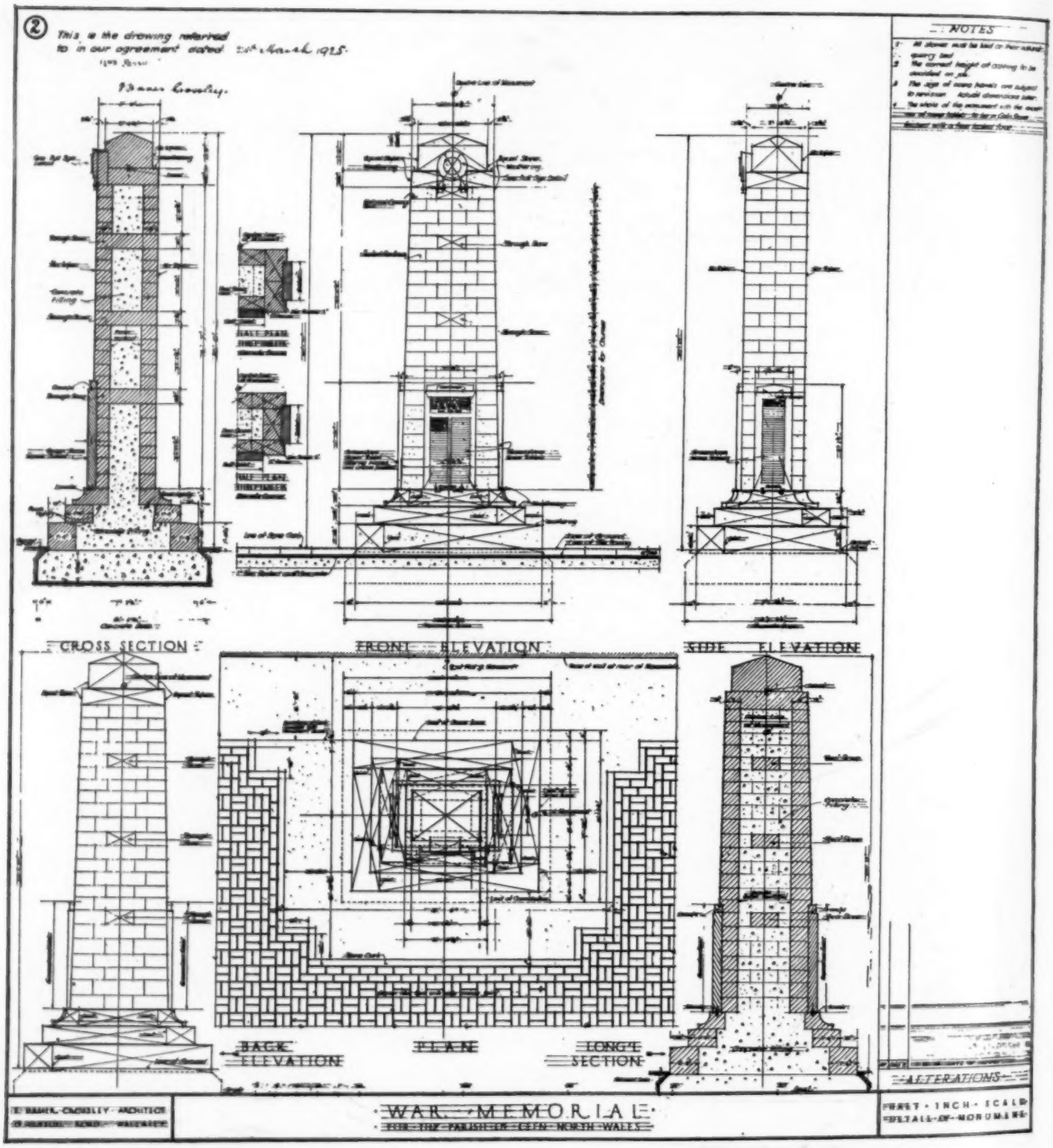
The lay-out was carried out by Mr. S. Mitchel, builder and contractor, Cefn; the monument by Messrs. Chatham Bros., Cefn Quarries, Wrexham; the Irish yews flanking the memorial provided by Messrs. Dicksons' Nurseries, Chester; the name panels and carving, Mr. Tyson Smith, Liverpool; and the paving bricks manufactured by Mr. J. C. Edwards, Ruabon. The cost was about £930.

The architect was Mr. F. Hamer Crossley. A.R.I.B.A.



War Memorial for Cefn, Wrexham, North Wales.

MR. F. HAMER CROSSLEY, A.R.I.B.A., Architect.



War Memorial for Cefn, Wrexham, North Wales.

MR. F. HAMER CROSSLEY, A.R.I.B.A., Architect.

BRITISH TOMBS, ANCIENT & MODERN—VIII

BY W. R. LETHABY.

"In the heart of the remotest mountains rises the little Kirk; the Dead all slumbering round it, under their white memorial stones—dull wert thou, O Reader, if never in any hour it spoke to thee—things unspeakable that went into thy soul's soul.—T. CARLYLE.

THESE notes must be ended, although the subject is next to endless. There are thousands of still beautiful churchyards in England yet unburied under harsh would-be grand monuments imported from far countries. Every one of these patches of old England contains something of distinction which would be suggestive for modern use if we could resume the customary ways of local craftsmanship in place of the aggressive advertising sort of things which have pushed them out of being. Two churchyards which I have seen within the last two or three weeks, one in Norfolk and the other in Sussex, may just be referred to before passing on to a few closing remarks. In the remote churchyard of South Repps, the point which impressed me most was the variety and ingenuity of the shaping of the tops of headstones—all are reasonable and easy, but the constant change, really no two alike, made each one an individual thing, a work of art (Fig. 1).

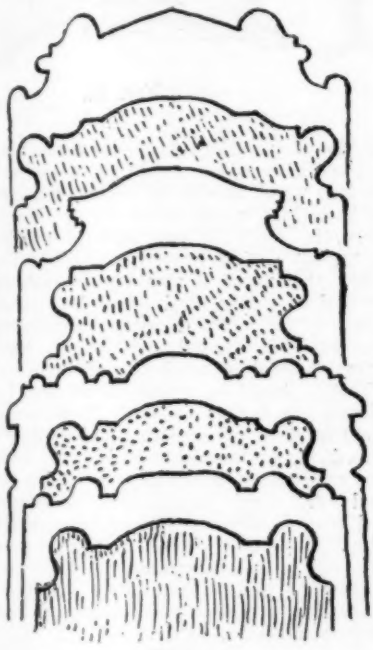


FIG. 1.

In Rotherfield churchyard are many old dumpy and extra thick little headstones, which, with several of the bigger stones, have wide, ingeniously managed chamfers at the back

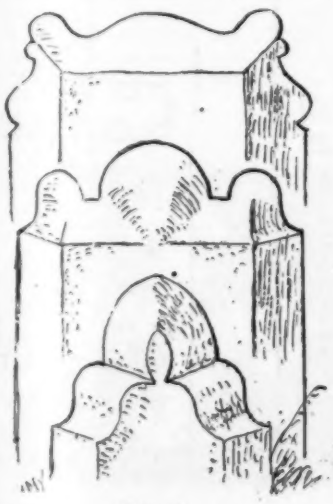


FIG. 2.

(Fig. 2). There are also several fine chest-tombs of the kind in which the body of each is shaped to a simple baluster section with square panels set on it for the inscriptions. These tombs have quite a sarcophagus look. They are of a type which is found widely distributed in country graveyards. Still more interesting to me was a simple wooden panel, of headstone form, made of deal, painted white; the two side pieces of the stout frame continued down to fix into the ground. This cheap, but excellent, carpenter-made memorial was dated 1885; it is now decaying, but it has lasted with its record for forty years. Of the hundreds of thousands of memorials erected in my time it must be one of a very few which are pleasant things to look upon.

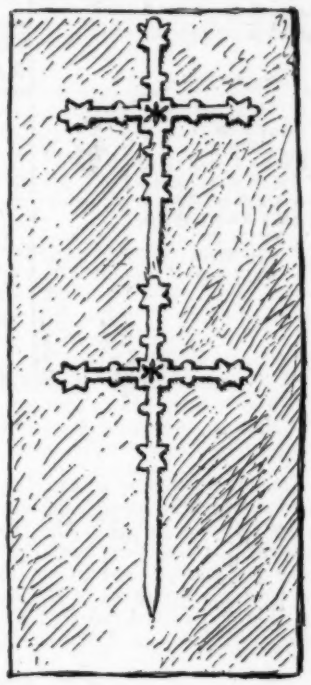


FIG. 3.

Then in the church I found a treasure, a cast-iron cross-slab of local make about 1500. It is 2½ ft. wide and nearly 6 ft. long, having two raised crosses on the central line (Fig. 3). The surface is unrusted, but uneven, and the crosses look like two impressions from the same wooden pattern in a sand mould. The thing is impressive and delightful; it was made, of course, at the local ironworks, and there are other slabs of similar kind in the neighbourhood. Lamberhurst, where the St. Paul's railings were cast, is only about six miles away. Nothing was ever wrong in such old craftsmanship, things were done in an ordinary workmanlike way without worry about design and style—and vulgarity had not been invented. This slab reminds me that I have occasionally seen quite passable cast-iron tombs of more modern work out of doors.

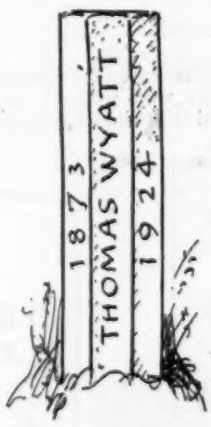


FIG. 4.

FIG. 5.

FIG. 6.

. . . . . .

Here I must end my notes on what has been and try to face that other question—What ought we to do?

First, we ought to try to pick up the spirit of the old customs and traditions in tomb-making. If, however, we want to have tombs like the old ones in spirit, they must not be like them in fact. We must do as the old tomb-makers did and not imitate the results they obtained under different circumstances. We must apply our thinking directly to what has to be done. What most obstructs the way is all our second-hand notions about "style" and correctness. If grave makers could only shake off these inhibitions and go straight ahead doing without fear what they know to be workmanlike in local materials, we might be quickly having tombs once again which were at least passable. Honest fumbling endeavours and even mistakes would be humanly interesting; it is only the stony stare of mis-educated deadness which is altogether impossible.

Only yesterday I was in a churchyard about fifty years old, but already crowded with the usual respectabilities, some of them quite costly, but all unthinkably dull and looking like a priced catalogue. If there had been only grass mounds it would have been a lovely place, but it was in fact dismal and repellant.

Probably nothing can be done to get us out of this pit until some hour of change strikes, but one cannot help hoping that if only we could arrive at some clear notions and lay hold of principles it might make a difference even now.

Most of all we should forswear all freak whimworks in the sham stunt-styles and approach necessary work from the end of material and workmanship. In saying this, however, I see that all talk about reasonable "design" is hopeless at a time when the word has practically become a synonym for making things unreasonable. There is danger, indeed, that we might take up the idea of reason in design as another kind of "taste," and seek a sham reasonable *looking* "style" to impose from the top, rather than follow a way of craftsmanship that finds its own results in growth from roots.

The principles of work which I would suggest, following on a repudiation of design in the sham styles—"Celtic crosses" and all that—are these: (1) Return to local materials and ways of workmanship; (2) begin, at least, in thinking about the problems, with things simple and small—prone slabs, little head-stones, blocks posts and crosses, obtained by cutting down the material and not from a pattern book; (3) clear lettering, mostly of one kind on each tomb, usually spread well over the surface and close up to the margins—have the lettering as big as may be and arranged in a straightforward way, not spaced out like an auctioneer's bill; (4) the inscriptions should say something and avoid the flat formulæ to which we have limited ourselves for a whole generation—children could do it for us if we are afraid to try; (5) for

simplest memorials use wood if allowed, white railings, panels, and little crosses, but I suppose there are laws of our commercialised cemeteries which would rule out anything so right and modest; (6) designs—horrid word, we don't design a loaf—should be suggested by the head of each making shop, and in working it out variation from the pattern should be made as thought of improvement arises—the idea, "something like this," should be substituted for "that pattern"—this allows of betterment and getting more than you bargained for—avoid books of designs, ignorances by office boys should be put aside for the work of men who know and can do; (7) any "ornament"—another horrid word! design, decoration, ornament, how they have misled us!—should be found experimentally in a lively spirit and not be anxiously concocted in styles that are thought correct and "grand-like." These are the Seven Lamps of tomb-making.

Consider one or two of these points further. Not only should the "design" for a grave monument be made by a mason who feels all the possibilities in his fingers and tools, not only should it be for a certain kind of stone which will cut "like that," but the best devising can only come for particular individual stones which present themselves in definite shapes and sizes. It is in looking at a given slab or block that a desire to do this or that with it will spring in the mind of a workman artist. In the absurd way we do our tasks, designing office-boy pictures and getting practical artists to cut their valuable blocks of stone down to fit a whim drawing, some sort of diagrams, and yet to do this is to perpetrate some of the very whim-designs I have been laughing at. I accept the difficulty, and have noted down a dozen results that came to me as answers to problems which I set myself.

Fig. 4 represents a simple pillar form of memorial. Fig. 5 is a thick rounded boulder-like stone; the form of the cross was suggested by thought of stars and clouds. Fig. 6 shows a small thick headstone with rounded edges in soft stone. Fig. 7 represents a hard thin slab, slate, for example, the cross being obtained in the flat by sideway chopping like the cuts in those delightful works of art butter prints. In Fig. 8 the problem set was to obtain a cross with the least cutting down of the stone slab. The next, Fig. 9, followed in seeing what would come of edge chamfering of the simplest kind.

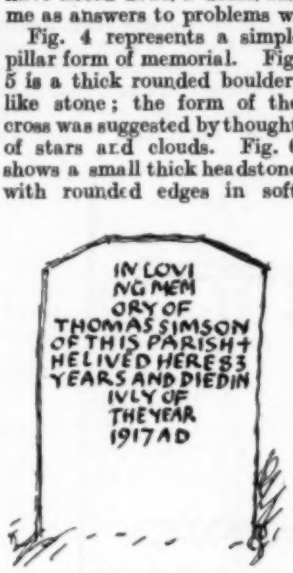


Fig. 10.

Fig. 11.

Fig. 12.

Fig. 7.

Fig. 8.

Fig. 9.

this inspiration cannot obviously be obtained, but when devising is restored to the shops that will be the natural, normal way of doing real work.

By "design" you can do nothing; it is only making and the ability to foresee a work through given materials and methods of making which count in the arts. In the phrase of Philip Webb, "I have been designing tombstones all my life," but only one of them can I remember with any beginning of satisfaction. It was for a one-man cemetery roughly walled round on a remote island. I got the nearest working mason to find the most likely looking boulder stone on the shore, and he found one about 7 ft. long by 3 ft. wide and 2 ft. thick, of which he sent me an outline. I folded this over on a vertical centre line in such a way that one side was entirely covered by the other, and on cutting away the excess on one side we obtained a symmetrical form—more or less. A small amount of big lettering was cut in on the smooth natural surface, and the tomb was set up on end. In the result it looked like a thing that had made itself, and I could look at a photograph of it which was sent to me without that miserable sinking of heart—that sick feeling to which office-designers have to get hardened.

It is impossible to explain what I mean by approaching modern work on general principles and through given materials without giving

Fig. 10 was an attempt at arranging the inscription itself in a significant way without any further work. Figs. 11 and 12 are incised crosses of a plain kind, one having the inscription on the cross and the other around it. Figs. 13, 14, and 15 are variations on the same motive of defining crosses by sinking some narrow strips of ground about them.

At the very end of these notes I wish I could say something which would make clearer the questions which trouble us about "ornament." The best thing would be to cut the knot and "sack the lot," for our modern thought of ornamental design is the root evil in all the crafts. Ornament is properly an embroidery over and above the needs of good, sound work, thrown in by full and joyous craftsmanship; ornamentation should not be an imbecile custom of spoiling buildings and wares which without it would be comparatively sound and rational. So far as we must "ornament," it should be done by exploring and playing with methods of workmanship and in the arrangement of elements which may be readily understood. Its only justification is freshness; dead play is obviously the reverse of stimulating. The point above all others I want to bring out is that any thought of ornamental design as "style" necessarily stultifies and withers it. It ceases to be play and becomes painful pomposity.

As examples of what I mean by experimenting and the play spirit, I have ventured to play at the point of the pen with devising crosses in interlacing thread work. They are done on a system, beginning with crossing lines at the centre and expanding by degrees, adding a bit at a time in the four directions, but boldly and firmly, with no trying it in pencil first. Accident is of the essence of the game, and in this way things come. I did not "design" the crosses shown in Figs. 16 and 17—they found

Fig. 13.

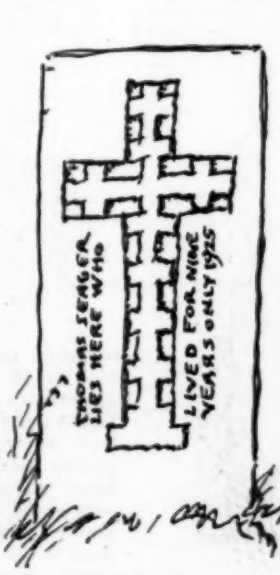


Fig. 14.

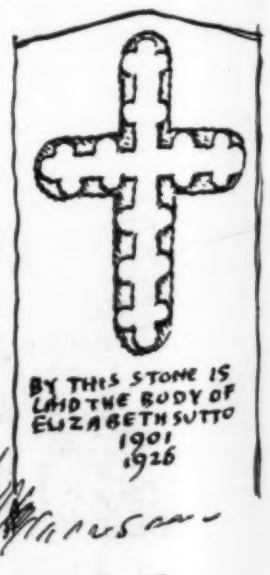


Fig. 15.

themselves, and so I can look at them with comparative pleasure. Some such crosses (if we were not too self-conscious to do anything that has freshness in it) might be quite pleasant simply incised on tombstones. I have played this interlacing line game with a second person doing the alternate "moves," and have found

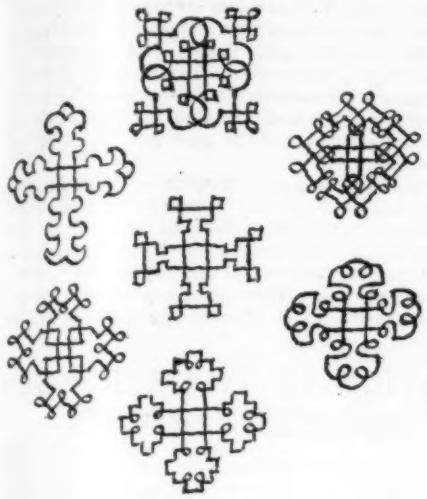


FIG. 16.

this produce interesting results too. Here a greater element of accident comes in, and the results are more than ever surprises.

Crosses and other panels of ornament may also be found by cutting folded paper. Figs. 18, 19, 20, were done in this way. Again there is life and freshness in the results that we cannot

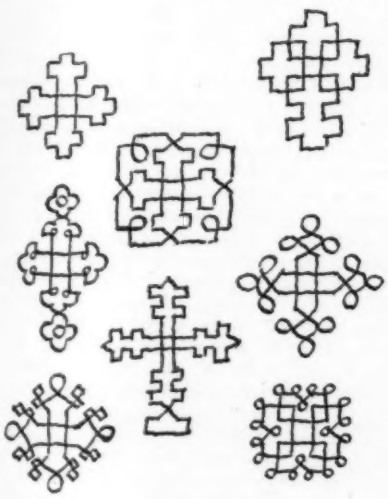


FIG. 17.

get from T-squares, compasses, indiarubber, "books of reference," and general school knowledge of Greek, Roman, Byzantine, Gothic, and Renaissance styles. Directly we explore and experiment infinity is opened up. Originality waits to be discovered just round the corner.

SPECIFICATIONS.—XXXII

By H. V. MILNES EMERSON, A.R.I.B.A.

ELECTRICAL ENGINEER—*Continued.*

THE switchboard in a small installation can be placed in the house and the current brought direct from the dynamo or battery. The switchboard can be made with a solid enamelled polished slate panel with angle iron frame to support same on the floor or from a wall. The instruments fitted to this type of board would be :—

Two ammeters, 1 voltmeter, 1 two-way voltmeter switch, 1 charge and discharge cell regulating switch, 1 automatic cut-in and cut-out, 1 dynamo switch with porcelain fuse, 1 lighting switch with porcelain fuse, indestructable labels indicating each instrument.

In larger installations the branch circuits can be controlled from the main switchboard in the generating station. Distributing boards can be placed in different parts of the building or in the separate buildings to be lighted.

Storage Battery.—In private installations a storage battery should be provided. The cells can be charged at any time during the day and a steady supply of current is rendered available at any time. The cells of a battery are made in various sizes providing specified capacities in ampère hours. The electromotive force of each cell when discharging is about two volts for all sizes. Thus, 25 cells would= 50 volts, 50 cells= 100 volts and so on, but in practice it is usual to allow a margin, 14 cells being provided for 25-volt installations, 27 cells for 50 volts and 54 cells for 100 volts. The additional cells compensate the inevitable fall of voltage during discharge.

The storage battery should be constructed of the best material throughout, and made to withstand rough usage. Batteries should be of specially selected glass boxes, with non-corrosive terminals, and strong wood stands, preferably in hardwood.

Storage batteries of 14 cells for 25-volt installations :—

Capacity Amp. hrs. 10 hr. rate.	20 Watt Lamps for 5 hrs.	Total lights of installation.	Weight cwts.	Cubic ft.
100	25	30 to 50	7	28
150	36	50 to 70	11	50

Storage batteries of 27 cells for 50-volt installation :—

50	25	30 to 50	14	56
75	36	50 to 70	22	100
100	50	70 to 100	28	120

Owing to loss due to charging and discharging them, accumulators are not economical, but the convenience in obtaining a light at any time without having to run the engine discounts this objection.

The uses to which the supply of current will be put, regulates the size of the plant. For a house with 30 to 50 lights the set would comprise a 2½ B.H.P. petrol-paraffin engine, 1½ kilowatt, 50–70 volts dynamo, switchboard and storage battery of 27 cells, 90 ampère hours capacity. If in addition to lighting the current is to be used for cooking, heating and power, a larger plant will be required.

Electrical Definitions.

Medium pressure is a pressure between conductors normally exceeding 250 volts, but not exceeding 650 volts at the point where the supply is delivered.

Low pressure is a pressure between conductors normally exceeding 30 volts alternating current and 100 volts direct current, but not exceeding 250 volts in either case at the point where the supply is delivered.

Extra low pressure is a pressure between conductors not exceeding 30 volts alternating current and 100 volts direct current.

Earthed means connection to the ground in such a manner that an immediate electrical discharge of energy can be made at all times without danger.

Earthing lead is the conductor between the earth and the apparatus to be earthed.

Cable is one or more conductors with insulating covering, and with or without protective coverings.

Flexible cable is one in which the conductor exceeds 0.007 sq. in. in section and comprises a number of wires, the diameter of which, plus the insulating material, being such as to ensure flexibility.

Flexible cord has a cross-section not exceeding 0.007 sq. in.

Bunched cables are so called when two or more are contained in a single duct or when unenclosed cables are not separated from each other.

Point is the termination of the wiring to receive a fitting.

Single-pole Switch.—Makes or breaks a circuit on one pole only.

Double-pole Switch.—Makes or breaks a circuit on two poles simultaneously, or makes or breaks two separate circuits simultaneously.

Fusible Cut-out or Cut-out is the complete protecting device, comprising the fuse, carrier, contacts, extension and circuit contracts, together with their mountings and base.

Fuse is a strip of metal or wire in the cut-out, which will fuse when excessive current passes through the system.

Circuit breaker is the switch for opening a circuit under an overload or other abnormal conditions.

Fuse-switch.—A switch the moving part of which carries one or more fuses.

Wiring systems.—Two-wire system consists of two conductors between which the load is carried or connected. Three-wire system consists of three conductors, one known as the neutral or middle, and the other two as the outer conductor.

The Institution of Electrical Engineers have drawn up regulations for the Electrical Equipment of Buildings, which are in accordance with standard practice and are accepted by the principal Fire Insurance Companies. These regulations should be incorporated in all specications for electrical equipment of buildings.

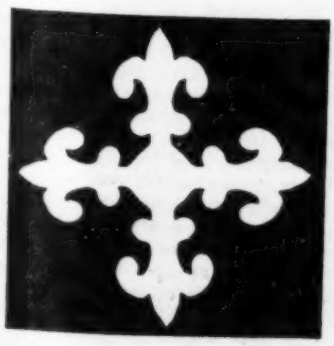


FIG. 18.

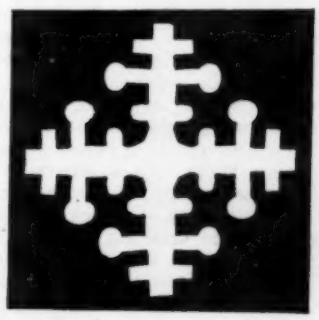


FIG. 19.

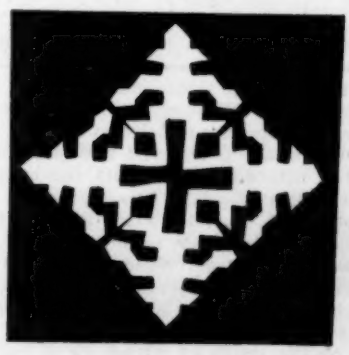


FIG. 20.

Conductors.—All conductors, other than the outer conductors of earthed concentric systems, should be of annealed copper and conform to the latest British Standard Specification. If the insulating covering of the conductor contains sulphur the wires should be covered with pure tin.

The standard sizes of conductors are as follows:—

(The figures given in this Table apply to single cables run in pairs in iron conduits or in wood casing, and to single cables sheathed with tough rubber compound and to concentric twin, and three-core cables of any finish run singly.)

Number and Diameter (in.) of wires comprising conductor.	Single cables run in pairs.	Concentric or twin cable.	Three-core cable.	Approximate total length in Circuit (lead & return) for 1 volt drop with max. permissible current. Col. 2.
1.	2.	3.	4.	5.
	Amps.	Amps.	Amps.	Ft.
1/·036	4·1	3·9	—	30
1/·044	6·1	5·2	—	30
3/·029	7·8	6·7	—	30
3/·036	12·0	10·3	—	29
1/·064	12·9	11·1	—	29
7/·029	18·2	15·7	13·6	28
7/·036	24·0	20·6	18·0	33
7/·044	31·0	26·6	23·2	39
7/·052	37·0	32·0	27·8	45
7/·064	46·0	39·0	34·0	55
19/·044	53·0	46·0	40·0	61
19/·052	64·0	55·0	47·0	71
19/·064	83·0	71·0	59·0	83
19/·072	97·0	83·0	69·0	90
19/·083	118·0	100·0	83·0	98
37/·064	130·0	118·0	90·0	103
37/·072	152·0	126·0	105·0	112
37/·083	184·0	149·0	126·0	123
37/·093	214·0	170·0	146·0	132
37/·103	240·0	188·0	—	145
61/·093	288·0	220·0	—	162
61/·103	332·0	249·0	—	172
91/·093	384·0	—	—	181
91/·103	461·0	—	—	185
127/·093	512·0	—	—	190
127/·103	595·0	—	—	200

The standard size of flexible cables are as follows:—

Nominal Area, sq. in.	Number and diameter of wires comprising conductor. Diameter in inches.	Maximum current permissible (subject to voltage drop.	
		For domestic portable appliances.	For other purposes.
		Amps.	Amps.
0·01	140/·010	16	24
0·0145	195/·010	19	28
0·0225	296/·010	23	35
0·03	266/·012	27	41
0·04	368/·012	33	49
0·06	557/·012	—	63
0·075	705/·012	—	74
0·075	313/·018	—	74
0·1	416/·018	—	90
0·12	482/·018	—	100
0·15	610/·018	—	117
0·2	810/·018	—	140
0·25	1017/·018	—	163
0·3	481/·029	—	184
0·4	646/·029	—	220
0·5	792/·029	—	250

To ascertain the maximum number of lamps any given cable will supply, multiply the voltage by the given amperes and divide by lamp watts.

If the voltage is 200 and the cable used is 1/·044 in. with 6.1 amperes and the lamps are 30 watts, then $200 \times 6.1 \div 30 = 40\frac{2}{3}$ lamps. If the voltage is 100, then $100 \times 6.1 \div 30 = 20\frac{1}{3}$ lamps. No allowance has been made in the foregoing for drop in voltage. The permissible drop allowed by the regulations of the Institution of Electrical Engineers is 3 volts on a 100 volt circuit and 5 volts on a 200 volt circuit. The approximate length of circuit for 1 volt drop with the maximum permissible current is given in the foregoing table.

No cable less than 1/·044 in. should be used, except for wiring fittings; a cable 1/·036 in. can be used for the latter purpose, or a flexible cord, 14/·0076 in. can be used. All conductors exceeding 1/·064 in. should be stranded. In selecting a conductor for lighting the fall in pressure from the consumer's terminals in the case of a public supply, or from the switchboard of a private generating plant to any and every point on the installation, should not exceed 1 volt, plus 3 per cent., when the conductors are carrying the maximum demand under practical conditions of service; and the current should not exceed that given in the tables for the standard size of conductors or flexible cables.

The types of cables employed and the method of insulation should be in accordance with the latest British Standard Specification.

Vulcanized rubber insulated cables are insulated with a layer of pure rubber next to the conductor, with an intermediate and outer jacket of vulcanizing rubber, bound with a layer of tape and the whole vulcanized together. When the outer cover is of tough rubber the tape can be omitted.

Cables that are braided can have the braiding in hemp, cotton, or jute, thoroughly impregnated with a protective compound and finished with a smooth and uniform surface.

Flexible cords are of two kinds, viz. (1) High insulation, and (2) medium insulation. High insulation flexible cords are insulated as follows: (*a*) The conductor is composed of plain copper wires lapped with cotton and insulated with two layers of pure rubber overlapped with cotton; and (*b*) the conductor is composed of copper wires coated with tin and insulated with one layer of pure rubber and two layers of vulcanizing rubber.

Medium insulation flexible cords are insulated as follows: (*a*) The conductor is composed of plain copper wires, lapped with cotton and insulated with two layers of pure rubber overlapped with cotton; and (*b*) the conductor is composed of copper wires coated with tin and insulated with two layers of vulcanizing rubber.

MICROSCOPICAL DETERMINATION OF THE STRENGTH AND DURABILITY OF BUILDING STONES

MR. EDGAR MORTON read a paper on this subject before Section G (Engineering) of the British Association, at Oxford, on August 10, for the purpose of demonstrating the relationship which exists between the composition and texture of a rock and its durability and strength, and of indicating the lines along which future research in this connection may be conducted with essentially practical results both for the engineer and the architect.

From time to time, he said, engineers and architects are called upon to make a choice among certain rock types which are available for a particular structure. The architect, as a rule, finds little difficulty in specifying his stone, since he has as a guide the accumulated evidence of years of use of certain well-tried stones, and it is accordingly one of these, from a quarry of repute and long standing, which he chooses.

For the larger and more costly structures to which engineers are accustomed, the nearer the source of the stone to the site of the works the better; accordingly, it falls to his lot to choose among a number of local untried stones, the economic properties of which are unknown. Unfortunately, there is little to guide him in his choice, for research in this direction has been sadly neglected in this country, and has for the most part been confined to the execution of physical tests, the results of which are neither conclusive nor helpful.

There has been no attempt to make a systematic microscopic examination of the texture and composition of rocks, as in the case of metals such as iron and steel. Geologists have accumulated large collections of microscopic thin slices of rocks, but have used them from a theoretical aspect and have not turned their material to practical account.

Of the thousand and odd mineral species known to science, only some dozen or twenty play an integral part in rock-building, and it is the properties of these common rock-forming minerals, together with their mode of aggregation within a rock, which determine its hardness, durability, porosity, toughness and strength, factors which decide its use for constructional purposes. From a practical as well as a scientific point of view, rock-types may be classed into two principal groups, namely, the igneous and the sedimentary rocks.

After discussing the nature and characteristics of these two groups, the author referred to the physical properties of stones as affecting their economic value. In a general way, he said, such properties are all a measure of the strength and durability of a rock. Thus, tests made to determine crushing strength, transverse strength, tensile strength and elasticity are all indicative of the behaviour of a stone towards the various stresses and strains to which they are subject in a building or other structure. The relative resistance of a stone to these various forces must be dependent on the mineral composition and texture of the stone. But, after varying periods of subjection to these forces, a stone may be found to have its power of resistance to them considerably depreciated, and this is found to be dependent on the durability of a stone; *i.e.*, its power of resisting the effects of atmospheric agencies, such as alternations of temperature and frost action, abrasion from natural or artificial causes, and chemical action of acidulated rain water, especially in towns where sulphur and other impurities are present in the air.

Brief reference was then made to experiments which have been carried out from time to time with a view to determining the behaviour of different rock types on long exposure to the various atmospheric agencies on the one hand, and to the various stresses and strains met with in any masonry structures on the other, as well as tests to determine the relative porosity and absorption of a stone. In a general way, said the author, the tests carried out show that the strength of certain stones diminishes after continued exposure to wide ranges of temperature and to successive freezing and thawing. This is largely due, in the case of temperature changes, to the effects of stresses and strains set up within a stone as a result of the various coefficients of thermal expansion of the different minerals; while in the case of the freezing tests it depends on the relation of porosity (total pore-space volume) to absorption (amount of water a stone will take up under normal conditions), and on the size and shape of the pores and their mode of connection with each other, and with the external surface of a stone. These are factors which can only be revealed by the microscope. Unfortunately, the artificial conditions imposed in the above tests are no true measure of the natural conditions to which a stone is, in fact, exposed. Furthermore, it must not be overlooked that a stone rarely has more than two of its faces exposed to the elements, except in cornices, mouldings, columns, stringcourses, and such-like.

The net result of all these physical tests is to produce a series of comparative values only. No amount of physical testing can reveal the intimate mineral arrangement and binding materials, nor does it give any indication of the nature and chemical stability of the minerals themselves. Only the microscope can reveal injurious minerals and incipient decomposition in minerals, factors which may seriously affect the life of a building stone, especially in town atmospheres. It is worthy of note also that a chemical analysis of a stone is practically valueless except, as Mr. J. Allan Howe has put it, "to add a certain dignity to trade circulars."

Physical tests are of no great value if unsupported by microscopic examination of the materials tested, and this is particularly the

case in dealing with the durability of stones. In order to demonstrate the value of microscopic examination, the author dealt with tests on a number of frequently specified building stones of which the relative strength and durability are known in a general way from comparative physical tests made, and from their behaviour towards weathering agencies after a long experience of their use. The specimens selected can be arranged in a graded series so far as these properties are concerned, and were accordingly chosen so that a definite relationship could be traced between their mineral composition and texture and their strength and durability. As was anticipated, such a relationship was obvious under the microscope.

Dealing first with sandstones, five were chosen from the carboniferous formation, the first two from the coal measures of Yorkshire, and the other three from the millstone grit of Derbyshire. These show a range in their respective crushing strengths (determined by a firm of repute) as follows:—

	Crushing strength Tons per sq. ft.
Armistone stone, Robin Hood Quarries, near Wakefield, Yorks	1,471*
Bradford stone, ditto	890
Stancliffe stone, Darley Dale Quarries, Derbyshire.....	670
Cromford stone, Cromford, Matlock, Derbyshire	497
Bramley Fall stone, Hawkesworth Quarry, nr. Leeds	400

The range of the crushing strengths of these stones is at once reflected by microscopic examination of thin slices of the stones, and reproductions of micro-photographs were shown. These revealed an increase in the size of grain with corresponding decrease in the crushing strength.

Armistone stone is a fine even-grained rock in which the crystals are angular and closely interlocking. Practically all the interstices are filled with siliceous cement (secondary quartz). The stone has every appearance under the microscope of a semi-quartzite (an altered and hard variety of sandstone) and is exceptionally strong and durable; it is highly recommended for paving purposes. Mica is present in small proportions in addition to the original quartz. The felspar is for the most part undecomposed. Bradford stone is also a fine, even-grained rock, slightly coarser in grain than the previous variety, but practically similar in other respects. Stancliffe stone is an uneven-textured rock, the grains varying in size from fine to large. The finer grains predominate and form a mosaic incorporating the somewhat scattered large grains. Siliceous cement fills the interstices. Mica and felspar occur, but the latter is for the most part undecomposed. The stone is not quite so strong as the preceding varieties.

Cromford stone is also an uneven-grained rock, but there is a predominance of the larger grains, the finer grains forming a mosaic between the larger. The stone is not, therefore, quite so strong as the preceding variety. Furthermore, the felspar occurs in larger crystals and is often decomposed, thus forming a clayey element in the cement, *i.e.* inert as a binding material. The remainder of the cement is siliceous.

Bramley Fall stone is a very coarse-grained stone, and as the grains are often only just in contact, there is a large pore space. This space is frequently filled with the clayey products from the decomposed felspars present, which are inert as a binder; siliceous cement is also present. There are very large crystals of felspar in all stages of decomposition.

Various other sandstones have been examined, and give similar results. For comparative purposes a micro-photograph of a piece of Triassic sandstone from Grinshill, Salop, having a crushing strength of about 300 tons per sq. ft. was shown. This has its grains rounded or subangular and loosely compacted. The cement is chiefly ferruginous and imperfect, many porespaces being present. A thin pellicle of iron oxide was noticeable round each grain.

In order to ascertain how far these principles applied in the case of limestones, the author chose the three following oolitic limestones:—

	Crushing strength Tons per sq. ft.
Farleigh Down stone, nr. Bath.....	67
Portland Whitbed, Portland	204
Portland Basebed, Portland	287

The considerable gap between the strengths of the first and second, and the smaller range between the last two, is again reflected by the microscope.

Farleigh Down stone is a coarse-grained oolitic limestone. The large round grains or oolites are very loosely packed, and frequently not in contact. The large proportion of pore space is filled almost entirely with calcareous cement, which appears under the microscope as a mosaic of calcite crystals of varying size. The strength of this stone, therefore, depends almost entirely on the strength of the cement, and no strength is gained from the interlocking of the crystals, as is the case in the following Portland varieties. The cleavages of the calcite crystals in the cement are easily attacked by frost action, with subsequent solution by acidulated rain water. The stone, therefore, has a low crushing strength, and is entirely unsuited to outdoor use. It is employed for internal decoration in cathedrals, churches, etc.

Portland Whitbed is a fine-grained oolitic limestone, the grains being in very intimate contact. The pore spaces are either lined or entirely filled with calcareous cement, which appears in the form of a mosaic of calcite crystals with irregular boundaries. Portland Basebed is similar to the Whitbed in size of grain, but the grains are very much more compacted and in many places appear to be pushed into one another so that their boundaries are indistinct. The pore spaces are more completely filled with calcareous cement.

The evidence as to the limestones confirms that deduced from an examination of the sandstones, and is sufficient, said the author, to demonstrate how profoundly the strength and durability of a rock are dependent on mineral composition and texture, and how invaluable the microscope is in this respect. The practical significance is obvious. So far as this country is concerned, very little research has been conducted, and such physical tests as have been made have been confined to a few limited and well-tried stones from quarries of repute. The various workers have carried out their experiments under varying conditions, and their results are of value in a comparative sense only. Furthermore, while artificial methods of freezing and thawing and inducing temperature changes in stones are of value, in that they give an indication of the value of the rocks tested under such artificially imposed conditions, these conditions are rarely, if ever, experienced in nature, and the results thus adduced do not give any exact information as to the life of a stone, say, in a climate such as ours. Such exact knowledge of the life and durability of a stone as we have has been gleaned from long exposure of certain stones in buildings to the natural elements and weathering agencies, and the results of experience in this direction do not always agree with those of experiment.

This is probably one of the reasons why architects and engineers are conservative in specifying the type of rock to be used in construction. It is a wise reservation born of experience, and has led to the general use of stone from certain well-known quarries. The reservation, however, has not infrequently led to unnecessary expense, for many cases are recorded where stone has been transported considerable distances when an equally good stone, possessing all the essential qualities, has existed close at hand.

The author suggested that the problem should be tackled in a systematic manner by some national or scientific institution. Such a body of trained workers would couple a detailed microscopical examination with physical tests carried on under standardised conditions, and knowledge gained from long exposure of stones. When this has been done for a very large range of stones it will be possible to work out a very close relationship between the composition and texture of a rock and its durability and strength. It will then be possible to get a very exact estimation of the economic value of any new type of stone required for constructional purposes by simple microscopical examination, thus saving a good deal of time and expense in making not very reliable physical tests. Such research will undoubtedly open up new and hitherto untried sources of stone, valuable unquarried deposits of which exist widely distributed throughout Britain. In this way heavy transport costs will be reduced, and there will be less waste of raw fuel, while building prices will be correspondingly lowered. Such accumulated knowledge would also afford a reliable means of opening up quarries of untried stone in hitherto undeveloped parts of the Empire. In this connection, of course, local climatic conditions must be taken into consideration.

* This figure seems excessive, and is quoted from a trade circular which gives no authority.

LAW REPORT

BIRMINGHAM BUILDER'S CLAIM.

In the Birmingham Vacation Court, on August 18th, Mr. Justice Fraser heard a motion by Mr. William Moffatt, a builder. who trades as James Moffatt & Sons, at Birmingham, to restrain Mr. Romer Williams, a solicitor, of Daventry, from parting with possession of Lower Farm, Basford, pending the hearing of an action which is being brought by Mr. Moffatt to establish a lien on the property for work done by order of the defendant's son, Captain Charles Romer Williams.

Mr. Hurst, K.C., for plaintiff, said that Captain Romer Williams made a £5,000 contract with Mr. Moffat to build a country residence at Lower Farm, Basford, which he rented from his father, Mr. Romer Williams. Captain Romer Williams had been adjudged bankrupt, and his father, while repudiating liability for the building, threatened to sell the whole property. The intended reserve was £3,000, the original cost in 1922 of the property, and it might well be that Mr. Moffatt's security would be lost.

Mr. Buckmaster, for the defendant, submitted that the plaintiff had been foolish enough to spend money on the improvement of another man's property without satisfying himself that the person with whom he contracted was the owner of the property. All the defendant wanted was to get back the money he had spent. He was quite willing, subject to any claim by the trustee in bankruptcy of his son's estate, to hand over any surplus to the plaintiff, but Mr. Moffatt was not entitled to more than that.

His Lordship said in his view justice required that the plaintiff should be protected as far as possible. There would be an injunction until the trial.

Arrangements were made for a speedy trial.

[The above report is condensed from *The Birmingham Post.*]

Institution of Fuel Economy Engineers.

The Right Hon. Sir Alfred Mond, Bart., P.C., M.P., who recently accepted the chairmanship of the new National Fuel and Power Committee appointed by the Government in accordance with the recommendation of the Coal Commission, has accepted an invitation to become the first President of the Institution of Fuel Economy Engineers.

The first meeting of the 1926 Winter Session of the Institution of Fuel Economy Engineers will be held on Friday, September 24th, at 6 p.m., in the Lecture Theatre of the Royal Society of Arts, St. John's-street, Adelphi, London, when Dr. A. E. Dunstan will read a paper on the subject of "Liquid Fuels."

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?—ED.

Fitting of Tanks.

[REPLY TO "ECONOMY," AUGUST 27.]

SIR,—My experience has been that it is so seldom the exact arrangements of a tank can be planned far ahead to the greatest advantage that I believe it will be found in the long run it is cheapest to order your tanks unflanged and make the necessary arrangements on the site. PRACTICE.

An American Position.

[REPLY TO "CELT," AUGUST 27.]

SIR,—I do not think that "Celt" could do better than seek advice at the R.I.B.A., where he is certain of courteous attention and assistance. ASSOCIATE.

Smoke Nuisance.

[REPLY TO CROYDON, AUGUST 27.]

SIR,—As described, there is no doubt that a nuisance has been caused, and the householder responsible can be called upon to abate it, by the usual legal remedies. CITIZEN.

SIR,—Your correspondents omit to state in most cases whether the buildings are in London district or otherwise. In my opinion, the iron flue pipe is quite irregular and should be removed. HENRY LOVEGROVE.

Works Managers' Association.

SIR,—Will you recommend me a society or association of which I may become a member? My position is works manager, and I have been in the building and allied trades for the past 20 years. J. W.

Questions as to Wall.

SIR,—I would be much obliged if you could put me right in the following matter.

My house is the middle one of three. Both my neighbours have rebuilt their houses, each going about 4 ft. higher than my house. On my right, although the wall is or was a party wall, an entirely new house has been built, touching the old wall. On my left, the house has been built on the old wall, but not up to the middle or half of the wall.

I now wish to raise my house. Should I build right up to my neighbours' walls, or should I keep strictly to my own half of these old walls? Also, is the old wall on my right now a party wall? A local builder is undertaking the job and wishes to have these points made clear. TANGO.

Estimating.

SIR,—Where it is definitely laid down by the conditions of a contract that "the *bill of quantities does not* form part of the contract," what is the position of the contractor upon extras and omissions in the final winding-up of accounts? Can the contractor claim his extras and can the local authority deduct any items, as omissions from the bill of quantities as work not executed? ESTIMATOR.

Bills of Quantities.

SIR,—The correspondence raised by "Anxious" causes me to inquire about one of my own difficulties. While compiling accounts, after re-measurement, I came across in two different schedules of quantities for the same measurer certain items billed as "lineal yards," but according to the mode on which these schedules were based, the items referred to should have been scheduled as "lineal feet."

In pricing these items, I failed to observe this strange departure and, through force of habit, figured the work in the usual way, and only discovered these discrepancies when the jobs were being wound up. In one case, the loss involved was a fair amount in proportion to the total contract.

My point is: In these circumstances has a contractor a legitimate case for demanding full payment at a rate per foot, when it can be proved by comparison with other bills that the said rates per foot are reasonable? If I could have a reliable opinion on this point, I should be greatly obliged. KEYSTONE.

Remedying Defects to House.

SIR,—I was called in to inspect a new house completed about four months ago and which now shows signs of many defects, such as warped windows and doors, ventilators painted up which will not work, casement stays which do not fit their pegs, soot door not properly fixed, and many other minor defects. The purchaser paid considerably over £2,000 for the house and the position is as follows.

The vendor agreed with a builder to erect the house and to share the profits of sale; the vendor has no agreement with the builder for a maintenance clause, but the vendor added the following clause in his agreement with the purchaser, viz.:—

"The vendor will, on completion, give to purchaser an undertaking to remedy any *latent defects* which may develop within a period of six months from date thereof."

The purchaser has applied to the vendor and the builder to remedy these defects; both refuse and refer to the above clause.

What is the position of the purchaser, and what is the exact legal construction of this clause? PERPLEXED.

Bills of Quantities: Errors in Extension.

[REPLY TO "ANXIOUS," AUGUST 13.]

SIR,—The courtesy of "Doubtful's" remarks invite reply. The method I indicated is one adopted by many surveyors and departments, and your correspondent may be assured that it is a very important and additional safeguard in the interest of both employer and builder. For the employer it protects him from the possibility of having to pay in the earlier stages of the contract extravagantly high prices, with the probability of the contractor defaulting before the work is finished, necessitating the completion of the work by another contractor at enhanced figures. Such has come within the scope of my experience where a large contract was let without the rates in the quantities being investigated, with a result that the excavating, concreting, brick and stonework were priced at very high rates, out of all proportion to rates current at the time; the finishings were priced extremely low; by the time the carcase was finished, the builder was bankrupt, and the finishings had to be done at considerable extra cost over the rates in the original contract. Under the terms of the contract, the employer had to pay *the rates* in that contract for work done by the original contractor. If, for instance, a surveyor or architect examining prices to-day, before accepting a tender, found that the builder had £10 a yard for dig and cart, £50 a yard for cement concrete, and £250 a rod for brickwork, he would, in my opinion, be justified in suggesting to the builder that such or similar prices were unreasonable, that they should be brought into line and reduced to normal current rates for such work, and that the resulting difference should either be adjusted by raising prices which were unreasonably low, or by adding a percentage on all rates which would bring the corrected total up to the amount of tender.

In framing the amount of a tender, there are certain factors present. One is the rate per unit which represents the estimator's value of such work; others are the extensions and castings of such rates, the summarised total of which finally is taken to tender as the amount for which the builder is willing to carry out the work. In adjusting the value of variations, the rate—whether it be much or little—is the only thing that can be considered. Extensions are *not* the rate, but a result arrived at by multiplying rate by quantity. In the absence of such a preliminary investigation of the priced bills, it might be possible, if the whole of the work was re-measured on good rates which were wrongly extended in the first instance against the builder, for all these errors to be "automatically adjusted" as suggested by "Doubtful," and for the employer to pay a sum greatly in excess of what he imagined or contracted for. And what would the employer say then? F.S.I.

BOOK REVIEWS

The Law Relating to Injuries to Workmen (1) *At Common Law*; (2) *Under the Employers' Liability Act*, 1880; (3) *Under the Workmen's Compensation Acts*, 1906-1924, *and the cases decided thereunder*. Third edition (revised). By FREDERICK GEORGE NEAVE, LL.D. (London Gold Medallist), Solicitor, author of "The Law Relating to Personal Injuries," "A Handbook of Commercial Law"; Editor of "Mozley & Whiteley's Law Dictionary." (London: Effingham Wilson). 1926. 2s. net.

The legal practitioner called upon to consider little handbooks, such as the above, dealing with very complex problems of law, must always be struck with the immense amount of information, accurate so far as it goes, that is compressed into so small a space. This little volume comprises but 153 pages exclusive of an Index, yet it gives the reader a very fair "bowing acquaintance" with the subjects it touches upon, and probably as much as is good for him, for the layman is ill advised in matters of any complication to think that any law book will enable him to be his own legal adviser or advocate.

If any criticism is called for, it might be directed to the statement on the title page, "and the cases decided thereunder," for, although the effect of the legal decisions is given in the text, the names and references are withheld. Perhaps, however, this is the criticism of the lawyer rather than that of the general reader, for the lawyer requires to know the actual source of every authority. We cannot but regret that this edition was not delayed so that the author in that section which deals with Workmen's Compensation might have based his observations on the Workmen's Compensation Act, 1925, which came into force on May 1 this year. This is only a consolidating Statute containing the matter dealt with in this volume under the previous Acts and adding no new matter, but the arrangement of the subject is so different that references to the previous Acts are out of date. The new Act would also have simplified the author's task, as the re-grouping of the sections and the Schedules has done much towards making the legislation more intelligible. We notice also that the author has left his readers to grapple themselves with the extraordinarily difficult calculations provided by the Act of 1923 in ascertaining the amount of compensation, contenting himself with setting out the provisions of the Act relating thereto. For the above reasons, Part III, dealing with Workmen's Compensation, appears to us the least satisfactory portion of this well-written popular little handbook, but we must emphasise the fact that even in this Section all the existing legislation is referred to, for the consolidating Act of 1925 added no new provisions, but merely re-codified the law.

Modern Cabinet Work, Furniture and Fitments. By WELLS & HOOPER. Fourth edition. (London: Batsford.) Price 25s.

It is not surprising that this book should run into a fourth edition, dealing as it does very ably with the practical side of the cabinet-maker's art. The numerous illustrations show varied constructional details and jointings, to which a scale is attached, thus making them of practical value. There are many characteristic specimens of old furniture of various periods also illustrated from photographs, and line drawings of the details likewise to scale. Examples of modern furniture are also given, including specimens of the work of the late E. W. Gimson, Mr. Charles Spooner, Mr. George Jack, Mr. Ambrose Heal, and others. This new edition has been brought up to date by the inclusion of new text and plates, illustrating recent developments in modern furniture. The volume is a veritable "inquire within" on matters relating to cabinet making. So far as we can see no detail has been overlooked.

Books Received.

LEEDS: OLD AND NEW.—By Percy Robinson. (Leeds: Richard Jackson, Ltd.)

CORK: A CIVIC SURVEY. (Liverpool: The University Press.) Price 10s. net.

THE BUILDING TRADE

THE MAKING-UP OF NEW AND PRIVATE STREETS.—V

HAVING in the previous article considered the procedure under the Public Health Act, 1875, we will now turn to the Private Street Works Act, 1892.

Private Street Works Act.

The Act is to be construed as one with the Public Health Acts (see Section 1), and it shall extend and apply to any urban sanitary district in which it is adopted (see Section 2), under the provisions of section 3, by resolution of the urban authority.

Application to Rural Districts.

The Local Government Board (now the Ministry of Health) may "declare that the provisions contained in the Act shall be in force in any rural sanitary district or any part thereof, and may invest a rural sanitary authority with the powers, rights, duties, capacities, liabilities and obligations which an urban authority may acquire by adoption of this Act in like manner and subject to the same provisions as they are enabled to invest rural sanitary authorities with the powers of urban sanitary authorities under the provisions of section 276 of the Public Health Act, 1875" (see section 4), but where this Act is in force neither sections 150, 151 and 152 of the Public Health Act, 1875, nor section 41 of the Public Health Acts (Amendment) Act, 1890, shall apply to any district or part of a district in which this Act is in force (see section 25).

Some Definitions.

The expression "street" means (unless the context otherwise requires) a "street" as defined by the Public Health Acts and not being a highway repairable by the inhabitants at large (see section 5), and words referring to "paving, metalling and flagging" shall be construed as including macadamising, asphalting, gravelling, kerbing, and every method of making a carriageway or footway (see section 5). With these preliminary observations we may turn to the operative sections.

Procedure on Making-up Streets.

Section 6, subsection (1), follows the terms of section 150 of the Public Health Act, 1875, as regards the operations to be carried out, sewering, levelling, paving, &c., as well as making good, and providing proper means for lighting; it also refers to a street or part of a street, and the above definition also brings in the condition that the street must not be a highway repairable by the inhabitants at large, but then follows a considerable difference, for instead of issuing notices calling upon the owners and occupiers of the premises fronting, adjoining, or abutting on such parts of the streets as require making up to do the works, the local authority may "from time to time" (We considered the questions involved by these words in our third article) resolve to do the works specified or any of them, in this Act called "private street works," and "the expenses incurred by the urban authority shall be apportioned (subject as in this Act mentioned) on the premises fronting, adjoining, or abutting upon such street or part of a street, and any resolution may include several streets or parts of streets, or be limited to any part or parts of a street."

The words "subject as in this Act mentioned" refer to section 10, which we shall refer to hereafter, and which, amongst other provisions relating to the apportionment, enables the authority, if it thinks fit, to include certain premises which do not front, adjoin, or abut on the street, but to which access of a certain kind is obtained from the street.

By section 6, subsection (2), the surveyor shall prepare in respect of each street or part of a street (*a*) a specification of the private street works referred to in the resolution, with plans and sections (if applicable); (*b*) an estimate of the probable expenses of the works; (*c*) a provisional apportionment of the estimated expenses among the premises liable to be charged therewith under this Act. Such specification, plans, sections, estimate, and provisional apportionment shall comprise the particulars prescribed in Part 1 of the Schedule to the Act, and shall be submitted to the urban authority, who may by resolution approve them with or without modification or addition as they think fit.

By subsection (3) the resolution approving the specifications, &c., shall be published in the manner prescribed in Part II of the Schedule and copies shall be served on the owners of the premises shown as liable to be charged in the provisional apportionment within seven days of the first publication, and during one month from the date of the first publication the approved specifications, &c., or copies of the same certified by the surveyor, shall be kept deposited at the authority's offices and open to inspection at all reasonable times.

Objections to Apportionment.

Section 7 deals with objections and is very important.

During the month that the specifications, &c., are open to inspection, "Any owner of any premises shown in a provisional apportionment as liable to be charged with any part of the expenses of executing the works, may, by written notice served on the urban authority, object to the proposals on any of the following grounds: (*a*) that an alleged street or part of a street is not or does not form part of a street within the meaning of the Act; (*b*) that a street or part of a street is (in whole or in part) a highway repairable by the inhabitants at large; (*c*) that there has been some material informality, defect or error in respect of the resolution, notice, plans, sections, or estimates; (*d*) that the proposed works are insufficient or unreasonable, or that the estimated expenses are excessive; (*e*) that any premises ought to be excluded from or inserted in the provisional apportionment; and (*f*) that the provisional apportionment is incorrect in respect of some matter of fact to be specified in the objection, or (where the provisional apportionment is made with regard to other considerations than frontage as hereinafter provided) in respect of the degree of benefit to be derived by any persons, or the amount or value of any work already done by the owner or occupier of any premises. For the purposes of this Act, joint tenants or tenants in common may object through one of their number authorised in writing under the hands of the majority of such joint tenants or tenants in common."

It will be seen that some of these objections involve points common to both this Act and the Public Health Act to which we have already referred; thus in our first article we considered

COMPARISON OF PRICES OF BUILDING MATERIALS ON AUGUST 1st and SEPTEMBER 1st, WITH CURRENT PRICES.

Materials.	August 1, 1926. £ s. d.	September 1, 1926. £ s. d.	Rise. %	Fall. %
Bricks—				
Best Stocks	4 5 6	4 5 6	—	—
Flettons	2 13 3	2 13 3	—	—
Glazed	21 10 0	21 10 0	—	—
Thames Ballast	0 10 6	0 10 6	—	—
Thames Sand	0 14 6	0 14 6	—	—
Shingle (¾ in.)	0 12 9	0 12 9	—	—
Portland Cement	2 18 0	2 18 0	—	—
Ground Blue Lias Lime	2 4 6	2 9 6	11.1	—
Grey Stone Lime	2 11 9	2 16 9	9.6	—
Bath Stone	0 2 9½	0 2 9½	—	—
Portland Stone	0 4 4	0 4 4	—	—
Good Sound Building Timber—				
4 in. × 11 in.	28 0 0	28 0 0	—	—
3 in. × 11 in.	25 0 0	25 0 0	—	—
2 in. × 11 in.	25 0 0	25 0 0	—	—
3 in. × 9 in.	24 0 0	24 0 0	—	—
3 in. × 7 in.	20 0 0	20 0 0	—	—
3 in. × 4 in.	22 0 0	22 0 0	—	—
Slates—				
24 in. × 12 in.	37 12 6	37 12 6	—	—
22 in. × 12 in.	34 0 0	34 0 0	—	—
20 in. × 10 in.	25 12 6	25 12 6	—	—
16 in. × 10 in.	17 12 6	17 12 6	—	—
16 in. × 8 in.	13 15 0	13 15 0	—	—
R.S. Joists	12 10 0	12 10 0	—	—
Iron—				
Common Bars	13 0 0	13 0 0	—	—
Mild Steel Bars	10 0 0	10 0 0	—	—
Steel Bars	10 0 0	10 0 0	—	—
Cut Nails	19 0 0	19 0 0	—	—
Sheet Lead	43 0 0	43 0 0	—	—
Glass—				
15 oz. Sheet	0 0 3½	0 0 3½	—	—
21 oz. Sheet	0 0 4½	0 0 4½	—	—
26 oz. Sheet	0 0 5	0 0 5	—	—
Raw Linseed Oil	0 3 2	0 3 3	2.5	—
Turpentine	0 5 11	0 5 7	—	5.65
Ground English White Lead	52 5 0	54 15 0	4.7	—
White Lead Paint	70 15 0	73 5 0	3.4	—
Red Lead	43 0 0	45 10 0	5.84	—

the question of highways repairable by the inhabitants at large, in our third article we cited cases as to the observance of statutory provisions as to notices, &c., but we must now refer to section 10 which introduces other considerations.

Apportionment.

Section 10 provides: "In a provisional apportionment of expenses of private street works the apportionment of expenses against the premises fronting adjoining or abutting on the street or part of a street in respect of which expenses are to be incurred shall, unless the urban authority resolve otherwise, be apportioned according to the frontage of the respective premises; but the urban authority may, if they think just, resolve that in settling the apportionment regard shall be had to the following considerations, that is to say (*a*) the greater or less degree of benefit to be derived by any premises from such works; (*b*) the amount and value of any work already done by the owners or occupiers of any such premises. They may also if they think just include any premises which do not front, adjoin, or abut on the street or part of the street, but access to which is obtained from the street through a court or passage or otherwise, and which in their opinion will be benefited by the works, and may fix the sum or proportion to be charged against any such premises accordingly."

We shall cite cases on this latter part of the section in our next article, but as regards the first portion, it will be seen there is a little obscurity in the Act. It will be noticed it appears drawn in general terms giving the authority a discretion in settling the apportionment to proceed on another basis than mere frontage and to consider the degree of benefit, and the amount and value of work already done, and in section 7, which deals with objections, it is stated in paragraph (*f*) that the objection to the degree of benefit or the amount or value of work already done is confined to cases "where the provisional apportionment is made with regard to other considerations than frontage as hereinafter provided." This is ambiguous, as it may be read to limit the general operation of section 10 to cases where the apportionment is made on premises not actually abutting upon the street, and the first ground of objection, the greater or less degree of benefit, seems in fact only appropriate to such cases, although the second objection, the value of work already done, might be appropriate to all cases.

We are not aware that this point has been the subject of any legal decision, but we believe there is a two-fold option in the section.

We have now shown that the procedure so far is as follows: (1) The resolution to do the works, (2) the preparation of specifications, plans and a provisional apportionment, (3) the resolution approving the same, (4) the publication of this last resolution and the service of copies on the owners of premises, and (5) the objections that can be taken within one month of publication.

Method of Hearing Objections.

The next step is provided by section 8, the hearing and determination of these objections. After the expiration of the said month the urban authority may apply to a court of summary jurisdiction to appoint a time for the hearing of objections, publishing a notice of the time and place and serving copies of such notice on the objectors. The court in such proceedings acts in the same manner as nearly as may be, as if the urban authority were proceeding to enforce payment of a sum of money and has powers to state a case for the opinion of a superior court, and it may also quash in whole or in part or amend the resolution, plans, sections, estimates, and provisional apportionment, or any of them, on the application either of any objector or of the authority, and if it thinks fit direct any further notice to be given, but as we shall show hereafter where there is a discretion in the authority under section 10, the court cannot amend the resolution by adding a matter left to the authority's discretion, as, for instance, the inclusion of premises not abutting on the street. Then section 8, subsection (2), contains the very important provision: "No objection which could be made under this Act shall be otherwise made or allowed in any court proceeding or manner whatsoever."

Section 11 gives the urban authority powers to amend the specifications, etc., and the provisional apportionment; but if the total amount of the estimate is increased republication and fresh notices to the owners are necessary, and objections can be made to the increase in like manner as to the original estimate and apportionment. Under section 12, when the works are completed and the expenses ascertained, the surveyor makes the final apportionment by dividing the expenses in the same proportions in which the estimated expenses were divided in the original or amended provisional apportionment, and such final apportionment shall be conclusive for all purposes, and notice of it shall be served upon the owners of the premises affected thereby. By subsection (2) within one month of the above notice any such owner may by written notice object to the final apportionment on any of the following grounds: (*a*) That the actual expenses have without sufficient reason exceeded the estimated expenses by more than 15 per cent; (*b*) that the final apportionment has not been made in accordance with this section; (*c*) that there has been an unreasonable departure from the specification plans and sections. By subsection (3) these objections shall be determined by a court of summary jurisdiction in the same manner as objections to the provisional apportionment.

Pausing here, it will be seen this code affords an immense improvement on that provided by the Public Health Acts, and avoids many of the difficult questions we have referred to under those Acts. Instead of the cumbrous process of first calling upon the frontagers to do the work themselves, a course they can hardly ever pursue, and compelling them to take objections confined to the apportionment at one stage, and deferring other defences until the sums are sought to be recovered, or made a charge upon the premises, under this Act the authority can resolve to do the work, and within a month of the first publication of the approved specifications, etc., the frontagers can take every objection to the proposed works, both those that go to the jurisdiction, such as that the place is not a street, or that it is repairable by the inhabitants at large, or that there is a defect in the proceedings, as well as objections to the apportionment, and besides that the objections as to the work being insufficient or unreasonable, and have them decided at once by the court of summary jurisdiction, and as that court has power to state a case for the opinion of a superior court, questions of law, or points as to jurisdiction, can be determined as expeditiously as possible. There is also an appeal to quarter sessions (Pearce *v.* Maidenhead Corporation, 1907, 2 K.B. 96; *The Builder*, 20 April, 1907).

As we pointed out in our first article, a decision under this Act that a street is a highway repairable by the inhabitants at large determines the status of the street (Wakefield Corporation *v.* Cooke, (1904, A.C. 31; *The Builder*, 26 December, 1903).

Stratford-on-Avon Bridge.

The scheme for a new bridge to cross the Avon at Stratford, which was adopted by a joint conference of representatives of the Town Council and the Warwickshire County Council, and approved by both local authorities, with a view to preserving old Clopton Bridge, has been laid before the Ministry of Transport. The estimated cost of the bridge is £41,292. It is hoped to get a contribution of 65 per cent. of the actual cost from the Ministry of Transport if the scheme is sanctioned, the balance to be found by the town council and the county council equally. No decision has yet been made by the Ministry of Transport.

WORKMEN'S COMPENSATION

DIMINISHING WEEKLY PAYMENTS.

An important point has been decided in the recent case Gillett *v.* John Fowler & Co. (Leeds), Ltd. (*Weekly Notes*, July 31), on section 14 of the Workmen's Compensation Act, now section 12 of the Act of 1925. The section provides that an employer shall not be entitled otherwise than in pursuance of an agreement or arbitration to end or diminish a weekly payment except in certain specified cases of which the third contained in paragraph (*c*) is as follows: "Where the medical practitioner who has examined the workman under paragraph (14) of the First Schedule of the principal Act, 1906 (now section 18 of the Act of 1925), has certified that the workman has wholly or partially recovered, or that incapacity is no longer due in whole or in part to the accident and a copy of the certificate (which shall set out the grounds of the opinion of the medical practitioner) together with notice of the intention of the employer at the expiration of ten clear days from the date of the service of notice to end the weekly payment or to diminish it by such amount as is stated in the notice has been served by the employer upon the workman." This section will be found with notes in the twelfth Article of our series of observations on the Workmen's Compensation.

In the case in question the workman had been in receipt of a weekly payment of 21s. 1d., but in January he was examined by the employers' medical man, who certified that he had partially recovered. This certificate was dated January 13, 1926. The employers gave notice to the workman that they intended to reduce the weekly payment to 10s. 6d., and sent with this notice the doctor's certificate, but more than six days had elapsed from the date of the certificate before this was done and the workman did not receive the notice and certificate until January 21.

On February 6 the employers reduced the compensation to 10s. 6d. and the workman had taken no steps to send a counter report under the Proviso to section 14, but applied for arbitration.

The County Court judge, so far as can be gathered from the report, appears to have held that as no time for the service of the notice and certificate is prescribed in section 14 paragraph (*c*) the reduction of the weekly payment by the employers from February 6 was within the terms of the section, but at the hearing he reduced the weekly sum to 8s. 9d.

On an appeal by the workman the Court of Appeal held that an employer relying upon section 14 paragraph (*c*) has to comply with paragraphs 14 and 15 of the First Schedule of the principal Act (sections 18 and 19 of the Act of 1925), and by paragraph 15 the report of the medical practitioner has to be served within six days of the examination as this is a condition precedent to the appointment of the medical referee, who, if the workman serves a counter report under the Proviso to section 14, has to give his certificate before the weekly sum can be ended or diminished. Therefore the employers were not correct within section 14 paragraph (*c*) and full wages must be paid down to the award of the County Court judge (see Davies *v.* Glyncorrwg Colliery Company, 1925, 2 K.B. 339).

The point has already been decided in James *v.* Grovesend Steel and Tinplate Company (1925, 18 B.W.C.C. 405), a case in which the notice of the medical report and the intention of the employers to end the weekly payments had not been given within six days of the making of the report and it was held that even where the parties were willing to waive the formalities prescribed by section 14 such waiver could not give the Court jurisdiction to determine a matter under that section, a matter not brought properly before it. The Court of Appeal in the case under consideration was following this earlier decision of the Court of Appeal.

THE FACTORIES BILL

THE Government have issued their Factories Bill, which in form follows very closely the Bill introduced in May, 1924, by the Labour Government, of which we gave a brief notice in our issue of September 19, 1924. The Bill is a consolidating measure, and is one of the first importance, but is open to the same objections we ventured to raise as regards its predecessors, that the definitions of what is a factory are so obscure that it will be hardly easier to say "what is not a factory?" than to determine "what is a factory?"

This question of definition is so important that we must address ourselves to it in the first place, as where there are, as in this Bill, some 107 clauses imposing restrictions and regulations on owners and occupiers of factories the first matter to be determined by them will be whether or not they fall within the Bill in connection with their undertakings. In the Factory Act, 1901, factories were divided into "textile" and "non-textile" factories, and a "Textile Factory" was defined as any premises in connection with which steam, water or other mechanical power was used to move or work machinery in certain specified processes; while "Non-Textile" factories embraced certain works and processes where mechanical power was not necessarily involved which were set out in the first part of the Sixth Schedule, and others involving machinery set out in the second part of that schedule. Besides this, a non-textile factory was, under paragraph (*c*), defined as "any premises wherein or within the close or curtilage or precincts of which any manual labour was exercised by way of trade or for the purposes of gain in or incidental to any of the following purposes: (1) the making of any article or part of any article; (2) the altering, repairing, ornamenting, or finishing of any article; or (3) the adaption of any article for sale, *and wherein the close or curtilage or precincts of which mechanical power was used in aid of the manufacturing process carried on there.*

From the above brief summary of section 149, subsection (1), it will be seen that the main principle of the Act of 1901 was to afford protection to employees in factories where the dangerous element of mechanical power existed, but that certain other processes were brought within the Act which could generally readily be ascertained by reference to the first part of Schedule VI.

Now let us turn to the definitions contained in the new Bill with the view of seeing how an owner or occupier can determine his position. Clause 1 provides: "Except where the contrary intention appears, the provisions of this Act shall apply to all factories as defined by this Act." Certain clauses state they are only to apply to certain factories, as, for instance, where a specified number of workmen are employed, but these are the exceptions rather than the rule, and an owner or occupier will have to turn to the definitions to see as a whole what his position under the Bill will be.

Clause 131, subsection (1), provides: "The expression 'factory' includes any premises or place wherein or within the close curtilage or precincts of which any person is employed in manual labour by way of trade or for purposes of gain in or incidental to any of the following purposes, namely (*a*) the making of any article or part of any article; (*b*) the altering, repairing, ornamenting, finishing, cleaning or washing or the breaking up or demolition or any article; (*c*) the adapting for sale of any article; *and to or over which premises or place the employer of the persons employed therein has the right of access or control.*"

It will be seen this, in an extended form, is part of the definition of a "non-textile" factory contained in section 149, subsection (*c*) of the Act of 1901, which we set out above with this important difference that the presence of mechanical power is dispensed with, and for it is substituted the right of access or control of the employer, a condition which in the Act of 1901 applied to some of the specified processes in a "workshop" as distinguished from a "factory."

Prima facie, therefore, the Bill applies, subject to special provisions contained in some of its clauses to any premises where the very exhaustive set of processes set out in clause 131 (1) are carried on, even by one man, over which the employer has right of access or control, and the owner of a factory or its occupier will have to go through the 140 clauses of this Bill to see whether he comes within the Bill as respects any provision. This clause is the same as that contained in the Bill of 1924, and we had hoped that when that Bill was redrafted some more practical definition would have been devised.

The above is the general definition of the word "Factory," but clause 131 as in the Labour Bill then proceeds: "The expression 'Factory' also includes (without prejudice to the generality of the foregoing definition." (1) Any premises or part of premises in which electrical energy is generated, converted, or transformed for supply by way of trade or for the purposes of traction on any railway, tramway, or other means of public conveyance, or for use in or in connection with any other industrial or commercial undertaking, or for lighting of streets, public places, or public buildings or institutions. But the application of this Act to transformer stations in which there is no moving machinery, and in which no person is regularly employed shall be subject to such exemptions and modifications as the Secretary of State may by order direct.

(2) Any yard or dry dock in which any ship is constructed, reconstructed, repaired, refitted, or finished, or broken up.

(3) Any premises or place in which the business of sorting any material or articles is carried on by way of trade or as a preliminary to or for the purposes of the work carried on in any factory.

(4) Any premises or place in which the business of filling bottles or containers, or packing articles is carried on by way of trade.

(5) Any premises in which the hooking, lapping, making-up, or packing of yarn or cloth is carried on.

(6) Any laundry carried on as ancillary to another business or incidentally to the purposes of any public institution.

(7) Any premises or place in which locomotives, vehicles or other plant for use for transport purposes are constructed, reconstructed, or repaired.

(8) Any premises in which letterpress printing is carried on.

(9) Any premises or place used in connection with a theatre for the making, adaptation, or repair of dresses or stage properties.

There is no change in any of these paragraphs from those in the Bill of 1924 except in (1), where a part of the premises is mentioned and the conversion of electrical energy is added; but the eighth paragraph, relating to letterpress printing, is new.

Thus there is first the general definition, which is that we submit will cause some difficulty, and then these defined processes; but the arrangement of the Bill as regards the definitions seems much less explicit than the Act of 1901.

Consolidating Bills are often printed with side notes referring to the parts of the statutes they incorporate; but this has not been done in this Bill, so it is very difficult to distinguish between old and new matter, as it involves an exhaustive study of the existing legislation and a comparison with this Bill. We think the following is a new provision contained in section 131, subsection (2): "Any workplace in which with the permission of or under agreement with the owner or occupier two or more persons carry on any work which would constitute the workplace a factory if the persons working therein were in the employment of the owner or occupier shall be deemed to be a factory for the purposes of this Act and the provisions of this Act shall apply as if the owner or occupier of the workplace were the occupier of the factory and the persons working therein were persons employed in the factory."

Having referred to the general definitions, we now propose to conclude this first notice of the Bill with a notice of two subjects of special interest to our readers, the application of the Bill to building and engineering works.

Building Operations.

Under section 105 of the Factory Act, 1901, the construction of a building and any structural work in connection with a building if mechanical power was used for the purposes of construction or structural work was made a manufacturing process, rendering the premises a "factory," so that the provisions of that Act relating (1) to powers to make orders as to dangerous machines, (2) to accidents, (3) the regulations as to dangerous trades, (4) the powers of inspectors, and (5) fines in case of death or injury should apply.

In addition to this the provisions of the Act relating to notice of accidents and the formal investigation of accidents applied as if (a) Any building exceeding 30 ft. in height and being constructed or repaired by means of scaffolding, and any building exceeding 30 feet in height and in which more than 20 persons (not being domestic servants) were employed for wages were included in the word "factory," and as if in the first case the employer of the persons engaged in the construction or repair, and in the second case the occupier of the building were the occupiers of a "factory."

In the Bill clause 132, subclause (1), contains the following definition of "building operation" as meaning "The construction, repair or alteration of a building and the preparation for and laying the foundation of an intended building, but does not include any operation which is an 'engineering work' within the meaning of this Act," and clause 94 provides that the following provisions of the Bill shall apply to "building operations undertaken by way of trade or business, and to any line or siding which is used in connection therewith and is not part of a railway," subject to the modifications set out in the clause, which are as follows:

(*a*) The provisions of Part I with respect to sanitary conveniences.

(*b*) The provisions of Part II with respect to machinery (other than the provisions relating to new machinery contained in clause 16), maintenance of fencing, chains, ropes and cranes, steam boilers (including the provisions as to exceptions as to steam boilers), and to the power to make orders as to dangerous conditions and practices.

(*c*) The provisions of Part III with respect to first aid and welfare orders.

(*d*) The provisions of Part IV with respect to regulations for safety and health.

(*e*) Part V, which relates to notification and investigation of accidents and industrial diseases.

(*f*) The provisions of Part X with respect to affixing an abstract, general registers, and duties of persons employed.

(*g*) The provisions of Part XI with respect to duties and powers of inspectors.

(*h*) Part XII, which relates to penalties and proceedings.

There is a slight difference in these paragraphs from those contained in the Bill of 1924. In that Bill (*b*) was as follows: "The Provisions of Part II excepting those relating to vessels containing dangerous liquids, maintenance of passages and stairs, work in places where injurious fumes are liable to accumulate, steam receivers, compressed air receivers, self-acting machines, means of escape in case of fire, regulations of means of escape from fire, and safety provisions in case of fire."

There was also a paragraph applying the provisions of Part IX with respect to weights and measures and weighing and measuring in-

struments used in ascertaining wages. In the Bill of 1924 building operations and engineering works were dealt with in the same clause, but in this Bill engineering works are dealt with separately in clause 94, subclause (2).

Engineering Work.

The Factory Act, 1901, contains no definition of "engineering work," but the Workmen's Compensation Act, 1897, which for many purposes referred to the Factory Acts then in force, contained the following definition: "Engineering Work" means any work of construction or alteration or repair of a railroad, harbour, dock, canal, or sewer, and includes any other work for the construction, alteration, or repair of which machinery driven by steam, water, or other mechanical power is used.

In clause 132, subclause (1), of the Bill, engineering work is defined as "the construction, repair, or alteration of any harbour, dock, pier, inland navigation, tunnel, bridge, viaduct, sewer, gas work or water work." This definition differs from that in the Bill of 1924, which was "the construction of a railway, tramroad or tramway, and the construction, repair, or alteration of any harbour, dock, pier, inland navigation, tunnel, bridge, viaduct, sewer, gas work, water work, or other work authorised by any special Act or order having the force of an Act." The provisions of the Bill which apply to "engineering works" are the same as apply to building operations, with the following exceptions: in paragraph (*b*), Part II applies as set out under the heading "building operations," but only from the words "Steam boilers"; and paragraph (*f*) as there set out is omitted. (See clause 94, subclause 2).

In the Bill of 1924, in connection with building and engineering works, it was provided (clause 99, subclause (2)) that the Notice of Accidents Act, 1894, should not apply in the case of any accident in respect of which notice was required under this clause, and if any question arose as to whether notice should be given under the Notice of Accidents Act or under that Bill, the question should be decided by the Secretary of State. In the present Bill this clause is omitted, and sections 4 and 5 of the Notice of Accidents Act, 1894, so far as it relates to factories and workshops is repealed.

Occupiers of the Above Undertakings.

Section 94, subsection (3), of the Bill in the same terms as in the Bill of 1924 specifies who are to be deemed occupiers in the case of building operations and engineering works, but is rather more explicit than section 105 of the Act of 1901.

It provides: "The provisions of this Act in their application to building operations and engineering works shall have effect as if references to any place where the operations or works are carried on were substituted for references to factories, and references to the persons undertaking by way of their trade or business such operations and works were substituted for reference to the occupier of a factory, and with such other adaptations as may be prescribed; Provided that such of the provisions of this Act as require general registers to be kept and copies of the prescribed abstract and regulations to be kept posted up on the premises shall be deemed to be complied with as respects building operations if the general register is kept at an office of a person undertaking the building operations, and copies of the abstract and regulations are kept posted up at each office, yard or shop of the person undertaking the operations at which persons employed by him on the operations attend, and in a position where they can easily be read by such persons." It is to be noted that engineering works are omitted in the above proviso.

Conclusion.

This Bill has been printed but will not be proceeded with at once, and therefore, though there are many other points requiring notice, in this paper we have only considered those clauses which contain some of the principal definitions. The main point we have endeavoured to make is that the substitution for what was the main test under the Factory Act of 1901 as to what constitutes a "factory," *i.e.*, the existence of machinery driven by mechanical power, of the vague expression contained in clause 131 (1), "premises over which the employer of the persons employed therein has the right of access or control" is extremely unsatisfactory, having regard to the nature of the operations defined in the clause without any limit to the number of persons employed. The provisions of this Bill are even more onerous than those of the Factory Act, 1901, and in the case of the small undertakings, compliance with them involves greater proportional cost than in the case of larger undertakings, and the least that can be done is to make it easy and certain for a man to determine his position under such an Act as this. The Bill appears to us to lack this element, but it will be easier to amplify this point when we examine it in detail.

"Safety first" is an admirable maxim, but care must be taken that unnecessary burdens are not placed on trade or "Safety first" will not be the complete slogan and "starvation last" will have to be added in these days of foreign competition.

Rivetless Steelwork.

An interesting experiment in steel construction is to be made at Sharon, U.S.A., where the Westinghouse Electric and Manufacturing Company are making the addition to their transformer factory of a five-story structure, the steelwork of which will not contain a single rivet. Instead all joints will be arc-welded. It is claimed for the new method that it effects the saving of 100 tons of steel in a total weight of 700 tons, and that while the cost of the welding system, being a one-man job, is from 10 to 25 per cent. cheaper than riveting, yet the extra strength of arc-welded joints over riveted is from 20 to 35 per cent. An additional advantage is that the method is noiseless. The Westinghouse building, which is to be of the mill-type brick-steel design, will be 220 ft. long, 70 ft. wide, and 80 ft. high. The first floor will have a wide aisle spanned by twenty-two girders 46 ft. long and 30 in. deep. The cost of the building is to be about £55,000.—*Times.*

Building Trade Conditions.

A meeting of the building trade workers of Birmingham was held at the Grand Theatre, recently, to consider the national agreement as to wages and working conditions which has lately been negotiated with the employers. It was addressed by Mr. R. Coppock (General Secretary of the National Federation of Building Trade Operatives), and Mr. D. Merson (a member of the National Federation).

Mr. Coppock stated that the agreement had now been signed and would become immediately operative.

The following resolution was carried: "That this meeting endorses the policy of the local branch of the federation in making application for an increase of wages of 2d. per hour for all sections, 3s. a week tool allowance for carpenters and joiners, together with alterations of the working rule agreement bearing on extra wages, overtime, and travelling allowances."

Mr. Coppock subsequently informed a *Birmingham Post* reporter that the agreement that has just been signed provides for a local application to be made on the lines suggested by the resolution, and that the proposed application for the 2d. per hour increase falls under the provision for exceptional rates in the new agreement.

Obituary.

The death has occurred of Mr. A. L. Ashley, managing director of Messrs. Henry Atkinson & Sons, Ltd., building contractors, Carlton-street, Leeds.

THE INSTITUTE OF BUILDERS

THE following candidates successfully passed the Institute of Builders Licentiate Examination held in May last:—A. C. Ashton, London; H. J. Aver, Wolverhampton; A. W. Barker, London; F. H. Beech, London; R. O. Bowman, Stamford; C. H. Bowyer, Slough; J. C. Corben, Maidstone; V. C. Gosling, Stowmarket; F. S. Hockaday, London; A. Hollingworth, Leeds; W. E. Ismay, London; A. W. King, Hurstpierpoint; C. Kingslake, London; S. J. Lawrence, Luton; S. C. Luton, London; F. J. Matt, London; C. J. Plannett, Lewes; G. P. Parker, Wallington; J. T. Reader, London; H. L. Searson, Heanor; M. F. Singleton, Kingston-on-Thames; A. Weiner, London.

The following are details of the syllabus for the 1927 Examination:—

Group 1.—Building Construction, including all trades and Building Materials. Drawing and Written tests.

Group 2.—Builders' Quantities and Estimating, including elementary surveying, price analysis and synthesis, job organisation, material supply sources.

Group 3.—Book-keeping, Accountancy, and elementary Costing.

Group 4.—Two of the following subjects:—

Brickwork and Drainage; Masonry; Steel and Reinforced Concrete; Carpentry and Joinery; Plumbing and Sanitation; Painting and Decorating; Plastering; Heating, Lighting, and Ventilating.

The questions set in this examination will have special reference to the basis of knowledge required by the potential master builder or departmental head, due allowance being made for differences in local practice. Where the Examining Board deem it advisable they may require the candidate to submit to an oral examination. Honours will be allowed in all subjects in which the candidate passes with distinction.

NEW BUILDINGS IN LONDON.

Westminster.—HOSPITAL.—A new hospital is to be built for the Royal Westminster Ophthalmic Hospital in Broad-street, W.C. The architects for the work are Messrs. H. P. Adams and C. H. Holden & Pearson, of 9, Knightsbridge, S.W.1. Tenders are shortly to be invited.

Wembley.—STORES.—A site has been obtained at the junction of Bridge-road and Forty-lane by Messrs. J. Sainsbury's for the erection of a provision stores. Messrs. W. Taylor, of 130, Butler-road, Harrow, are the builders.

Mornington-crescent.—FACTORY.—A site has been secured by Messrs. Carreras, Ltd., for the erection of a factory. The site is opposite the Underground Station. Messrs. M. E. & O. H. Collins, of 115, Old Broad-street, E.C., are the architects.

Francis-street.—EXTENSIONS.—Extensions, to cost about £20,000, are being carried out to Messrs. Heal & Sons' furniture warehouse in Francis-street, Tottenham Court-road, W.C.1. Messrs. F. Blay, Ltd., builders, 1, Dowgate-hill, E.C.4. The architects for the work are Messrs. Smith & Brewer, of Bloomsbury.

Nine Elms-lane.—PREMISES.—Demolition work has been carried out by H. J. Moyes, housebreaker, of 255, Clapham-road, S.W.9, for the erection of new premises for the Meux's Brewery.

Forest Gate.—MARKET.—A new market is to be erected in Woodgrange-road, E.

Ealing.—EXTENSION.—The Town Council are to enlarge the town hall.

Billingsgate.—MARKET.—The City Corporation are proposing to remove the market from its present site to the Metropolitan Cattle Market, at Islington, N.

RATES OF WAGES IN THE BUILDING TRADE

Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.

	Masons	Bricklayers.	Carpenters Joiners	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alnwick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashford (Kent)	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ashington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Aylesbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Aylsham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Banbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnstaple	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Basingstoke	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Berwick	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bexhill	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bradford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Braintree	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Bridlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bromsgrove	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromyard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Bungay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Canterbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Carlisle	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cirencester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Clacton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cranbrook	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cromer	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Devizes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dewsbury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dorchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dorking	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Driffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Droitwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
E. Glam. (Mon. Val)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ely	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Exmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Fakenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Felixstowe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Glossop	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Goole	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gosport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/£
Grays	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harpenden	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hereford	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Herne Bay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hertford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hitchin	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hoddesdon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Holt	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hunstanton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Huntingdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Isle of Wight	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Keighley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
King's Lynn	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leighton Buzzard	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Littlehampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
London:								
12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/4½
12–15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Lowestoft	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Malvern	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harb'rough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Matlock	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Melton Constable	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Melton Mowbray	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newark	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-ur-Lyme	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
New Forest	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newmarket	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Nuneaton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Paignton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Peterborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Redditch	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ripon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Sawbridgeworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Saxmundham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sevenoaks	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sittingbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stevenage	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stourbridge	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stowmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stratford-on-Avon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5	1/1½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swaffham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Tamworth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Thetford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/1
Trowbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Uttoxeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wallsend	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warminster	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Welwyn Gar. City	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Weston-sup.-Mare	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Weymouth	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Whitby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Winchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wisbech	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Woodbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worksop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worthing	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Wrexham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wroxham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wymondham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½

(For rates of wages in the Building Trade in Scotland, see page 393.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

SEPTEMBER 6.—**Bognor.**—HOUSES.—Construction and completion of 46 houses, parlour and non-parlour type, on the Collyer housing estate, for the U.D.C. J. Draper, A.M.Inst.C.E., surveyor, High-street, Bognor. Deposit £2 2s.

SEPTEMBER 6.—**Bognor.**—PAINTING AND DECORATING.—Of 19 cottages, Nos. 29 to 47, Gravits-lane, for the U.D.C. J. Draper, A.M.Inst.C.E., surveyor, High-street, Bognor.

SEPTEMBER 6.—**Caerphilly.**—EXTENSION.—Extension of the omnibus garage in Mill-road, for the U.D.C. T. H. Richards, surveyor, Council Offices, Caerphilly. Deposit £2 2s.

SEPTEMBER 6.—**Edinburgh.**—ALTERATIONS.—Alterations on fences at railway cattle sidings, Gorgie Markets, for the T.C. E. J. MacRae, A.R.I.B.A., City Architect.

SEPTEMBER 6.—**Enniskillen.**—HOUSE.—For building a residence. Mr. Charleton, County Surveyor's Office, Enniskillen. Deposit £2 2s.

SEPTEMBER 6.—**London.**—ELECTRIC WIRING.—For wiring and fittings of electric lighting, power, telephones, &c., at Hackney Institute. Chief Engineer, Old County Hall, Spring-gardens, S.W. Deposit £1.

SEPTEMBER 6.—**Newcastle-upon-Tyne.**—GATES.—For nurses' new home, Westgate-road, for the B.G. Messrs. Harrison & Ash, architects, 22, Ellison-place.

SEPTEMBER 6.—**Plymouth.**—LAVATORY.—Lavatory block at Didworthy Sanatorium, near Brent South Devon, for the C.B. J. Wibberley, Borough Engineer and Surveyor. Deposit £2 2s.

SEPTEMBER 6.—**Sowerby.**—VARIOUS.—Installation of domestic hot water supply, improvement to artificial lighting and ventilation, and additional equipment and fittings at the Bolton Brow Domestic Centre, and also for the laying of patent jointless composition flooring &c., for the West Riding E.C. A. Bellby, Education Office, Sowerby Bridge.

SEPTEMBER 6.—**Tiverton.**—HOUSES.—Six parlour houses and six non-parlour houses (in blocks of six), at Picker's Field, Birchin-lane, for the T.C. A. M. Kinnison, Borough Surveyor. Deposit, £1 1s.

SEPTEMBER 6.—**Windsor.**—STAIRCASE.—Supply and erection of an outside iron staircase at the Cottage Home for Girls at Ashdene, Englefield Green, for the Windsor B.G. J. E. Gale, clerk, 16 Sheet-street, Windsor.

SEPTEMBER 6.—**Wombwell.**—HOUSES.—Erection of 82 type "A" houses on a site situate near King's-road, for the U.D.C. D. H. Roberts, L.R.I.B.A., architect, Park-street, Wombwell. Deposit £2.

SEPTEMBER 7.—**Bangor (Ireland).**—ABATTOIR.—For the erection of an abattoir, for the U.D.C. Mr. J. Milliken, Clerk, Town Hall, Bangor.

SEPTEMBER 7.—**Belfast.**—EXTENSIONS.—For building extensions at Head Office, East Bridge-street, and sub-station building at Dunville Park, for the Electricity Department. Mr. Johnstone Wright, City Electrical Engineer, East Bridge-street, Belfast. Deposit £2 2s.

SEPTEMBER 7.—**Dartington.**—HOUSE.—Dwelling house and shop. Mr. Guy, Brookdene, Dartington, Totnes.

SEPTEMBER 7.—**Dublin.**—HEATING.—Heating installation at the Dublin Custom House, for the Commissioners of Public Works. J. J. Healy, Secretary, Oifig Oibreach Puibli (Office of Public Works), Baile Atha Cliath (Dublin)

SEPTEMBER 7.—**Glasgow.**—ALTERATIONS.—For alterations at Glasgow Head Post Office (to form Repeater Station), for H.M. Commissioners of Works. Architect, H.M. Office of Works 122, George-street, Edinburgh. Deposit £1 1s.

SEPTEMBER 7.—**Halifax.**—VARIOUS.—For the erection of the following works:—Tram shelter and public convenience at Tram Terminus, Shelf, for the Shelf U.D.C.; bungalow at Stump Cross, Halifax; house Scotchman-road, Toller-lane, Heaton. Mr. G. R. Oddy, architect, Ward's End Chambers, Halifax.

SEPTEMBER 7.—**Hoylake.**—FOUNDATIONS.—For foundations for various new plant at Hoylake Gas Works, for the Hoylake and West Kirby U.D.C. Mr. A. G. Readdy, Manager, Town Hall, Hoylake.

SEPTEMBER 7.—**Kensington.**—HOUSES.—For the demolition of existing buildings and erection of 16 flats in Threshers-place, Notting Hill, for the B.C. Borough Engineer, Town Hall, Kensington, W.8. Deposit £2 2s.

SEPTEMBER 7.—**Kingswood.**—HOUSES.—Erection of 18 houses, for the U.D.C. H. Glynn Warne, architect, Council Offices, Kingswood, Bristol. Deposit £1 1s.

SEPTEMBER 7.—**Manchester.**—PAINTING.—For painting the iron bridges on the line of aqueduct from Ambleside to Manchester, for the T.C. Chief Clerk, Secretarial Section, Waterworks Offices, Town Hall, Manchester.

SEPTEMBER 7.—**Manchester.**—RE-SLATING.—Re-slating the patients' dining hall at Baguley Sanatorium, for the T.C. City Architect, Housing, &c., Department, Civic Buildings, 1, Mount-street.

SEPTEMBER 7.—**Willesden.**—GREENHOUSE.—Greenhouse at the New Cemetery, Cobbold-road, for the U.D.C. F. Wilkinson, Engineer to the Council, Town Hall, Dyne-road, Kilburn, N.W.6.

SEPTEMBER 8.—**Cardiff.**—MAINTENANCE.—For the execution of ordinary works and repairs at the buildings in the charge of H.M. Commissioners of Works in the Cardiff district. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit 10s. 6d.

SEPTEMBER 8.—**Chelmsford.**—NEW SCHOOL.—Erection of new elementary school at Nevendon, Burnt Mill-road, for the E.C. of the Essex C.C. County Architect, Springfield Old Court, Chelmsford. Deposit £2 2s., to F. H. Owen, County Accountant, Duke-street, Chelmsford.

SEPTEMBER 8.—**Liverpool.**—MAINTENANCE WORKS.—For the execution of ordinary works and repairs at the buildings in charge of H.M. Commissioners of Works in the Liverpool district, for separate trades. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit 10s. 6d.

SEPTEMBER 8.—**London.**—ROOM.—Isolation room at the Infants' Day Nursery, 547, Liverpool-road, N.7, for the Islington B.C. Borough Engineer.

SEPTEMBER 8.—**Manchester.**—FOUNDATIONS, &c.—(*a*) Foundations, preliminary works and superstructure; (*b*) steelwork in Stores extension, in connection with the extension of the Barton Power Station, for the T.C. Mr. H. C. Lamb, Chief Engineer, Electricity Department, Town Hall, Manchester. Deposit £2 2s. each.

SEPTEMBER 8.—**Sheffield.**—BUILDING.—General builder's work required in connection with the installation of filtration plant at Glossop-road baths, for the T.C. W. G. Davies, City Architect. Deposit £2.

SEPTEMBER 8.—**Tilbury.**—SCHOOL ENLARGEMENT.—For the enlargement of Tilbury St. Chads' Elementary School, for the Essex C.C. Mr. Jno. Stuart, County Architect, Springfield Old Court, Chelmsford. Deposit £2 2s.

SEPTEMBER 9.—**Belfast.**—CONVENIENCES—Public convenience at the junction of Crumlin-road and Twaddell-avenue, for the C.B. City Surveyor.

SEPTEMBER 9.—**Bristol.**—RECONSTRUCTION.—Of roof of Dublin shed, Broad Quay, for the Port Authority. Thomas A. Peace, Chief Engineer, Chief Engineer's Office, Avonmouth Dock. Deposit £3.

SEPTEMBER 9.—**Hitchin.**—SORTING OFFICE.—Erection of at Hitchin, for the Commissioners of His Majesty's Office of Works. Contracts Branch. King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

SEPTEMBER 9.—**Leighton Buzzard.**—HOUSES.—Eight houses on the frontage of the Council's Heath-road site, for the U.D.C. H. A. Rolls, architect, 31, High-street. Deposit £2 2s.

SEPTEMBER 9.—**London.**—HEATING, &c.—For heating and ventilating work at the New Public Offices, Whitehall, S.W., for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

SEPTEMBER 9.—**Tavistock.**—HOUSES.—Erection of six houses at Whitchurch, for the R.D.C. T. H. Harris, surveyor, Townhall Chambers, Tavistock.

SEPTEMBER 9.—**Uxbridge.**—PAINTING.—For the exterior painting and repair of Hospital and Laundry Blocks, Porter's Lodge, and Mortuary, at their Hospital, Kingston-lane, Uxbridge, for the Uxbridge Joint Hospital Board. Mr. Wm. L. Eves, 54, High-street, Uxbridge.

SEPTEMBER 10.—**Bristol.**—PAINTING, &c.—Painting, repairs, &c., at (1) Relief depot and porter's lodge, Eastville Institution, and (2) casual wards and superintendent's house, Eastville Institution, for the B.G. Thos. S. Lamb, clerk, St. Peter's Hospital, Bristol.

SEPTEMBER 10.—**Chailey.**—HOUSES.—Erection of 115 houses, for the R.D.C. Mr. H. J. Tillson, Clerk, Union Offices, West-street, Lewes, Sussex.

SEPTEMBER 10.—**Dinnington.**—EXTENSION.—Work in connection with the provision of additional office accommodation at the Council school, for the West Riding E.C. A. Rayner, 151, Cross-hill.

SEPTEMBER 10.—**Edinburgh.**—ELECTRIC WIRING.—For electric wiring (in steel conduit) at Edinburgh Castle, for H.M. Commissioners of Works. Architect, H.M. Office of Works, 122, George-street, Edinburgh. Deposit £1 1s.

SEPTEMBER 10.—**Edinburgh.**—DEMOLITION.—Of cottages at Oxgangs Farm, Colinton mains, for the T.C. E. J. MacRae, City Architect, City Chambers.

SEPTEMBER 10.—**Leeds.**—RAILINGS.—Steel work, wrought-iron railing, and concrete floors required in the erection of a verandah at St. James' Hospital, Beckett-street, for the B.G. J. H. Ford, Clerk, Poor Law Offices, 14, South-parade.

SEPTEMBER 10.—**Portishead, Bristol.**—WIRELESS STATION.—Erection of, at Portishead, for the Commissioners of His Majesty's Office of Works. Contracts Branch. King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

SEPTEMBER 10.—**Thornbury.**—HOUSES.—Eight houses at Patchway, near Bristol, for the R.D.C. F. W. Davies, surveyor, High-street.

SEPTEMBER 11.—**Durham.**—CONVERSION.—For builder's and other works, also for heating and hot water supply required to be done in the conversion of Seaham Hall into a tuberculosis hospital, for the Durham C.C. Messrs. W. & T. R. Milburn, architects, 19, Fawcett-street, Sunderland. Deposit £2 2s.

SEPTEMBER 11.—**Glamorgan.**—REPAIRS.—For (1) Nelson Police Station, alterations and additions; (2) Port Talbot Police Station, alterations and additions; (3) Port Talbot Police Station, Court, and Weights and Measures premises, electric light installations; (4) Llanbradach Police Station, new concrete roof, re-plastering, &c., for the C.C. T. Mansel Franklen, Clerk to the C.C., Glamorgan County Hall, Cardiff.

✱SEPTEMBER 11.—**Pewsey, Wilts.**—HOUSES.—Erection of 60 houses in various parishes, for the R.D.C. Contractors may tender for the whole 60 houses, or for the number of houses allotted to any parish or parishes. Robert Dixon, Clerk to the Pewsey R.D.C., Pewsey, Wilts. Deposit £3 3s.

SEPTEMBER 11.—**Rochford.**—HOUSES.—Erection of 66 houses for the R.D.C. Mr. A. C. Madge, surveyor, Rayleigh, Essex. Deposit £1 1s.

SEPTEMBER 11.—**Rugby.**—SHEEP PENS.—For the erection of 36 additional sheep pens and other incidental works at the Rugby Cattle Market, for the U.D.C. Mr. J. H. Sharp, Surveyor. Deposit £1 1s.

SEPTEMBER 11.—**Southampton.**—ADDITIONS AND ALTERATIONS.—At the Tramway Offices, for the Corporation. Tramway Manager's Office, 161, Above Bar-street, Southampton. Deposit £2 2s. (to the Borough Treasurer).

SEPTEMBER 11.—**Staines.**—ELECTRIC LIGHTING.—For the installation of electric light in a part of their Infirmary, London-road, Ashford, for the Board of Guardians. The Master at the Institution.

SEPTEMBER 13.—**Ashton-upon-Mersey.**—HOUSES.—26 Houses in Greenbank-road, for the U.D.C. Matley, Brotherton & Mills, architects, Court-chambers, Old Millgate, Manchester. Deposit £3 3s.

SEPTEMBER 13.—**Bristol.**—LIGHTING.—Electric lighting, shed "V," Canons Marsh, for the Port Authority. T. A. Peace, engineer, Port of Bristol Authority, Chief Engineer's Office, Avonmouth Dock.

SEPTEMBER 13.—**Chester.**—WIRING.—Electric wiring of Chester Castle. Cramp & Frith, consulting engineers, 33, Brazennose-street, Manchester. Deposit, £2 2s.

SEPTEMBER 13.—**Duffield.**—COTTAGES.—Two pairs of cottages on the District Depot site adjoining the Derby main road, for the Derbyshire C.C. J. W. Horton, County Surveyor, County Offices, St. Mary's Gate, Derby. Deposit £2 2s.

SEPTEMBER 13.—**Eccles.**—LIGHTING.—At new extension of the public baths, Cromwell-road, Patricroft, for the T.C. Borough Electrical Engineer, Electricity Works, Cawdor-street. Deposit £1 1s.

SEPTEMBER 13.—**London.**—DWELLINGS AND SHOPS.—Erection of two blocks (including four shops in each block) at Brand-street area, Islington, for the L.C.C. Architect to the Council (Room No. 3), Westminster-bridge, S.E. Deposit £2 (to the cashier of the Council).

SEPTEMBER 13.—**London.**—DWELLINGS.—Erection of a block of 77 flat dwellings in Esher-street, Westminster, for the Westminster City Council. Drower & Brighton, quantity surveyors, 28, Victoria-street, S.W.1. Deposit £5 5s.

SEPTEMBER 13.—**Manchester.**—PREMISES.—Setting back premises in Hulme Hall-lane, Miles Platting, for the T.C. City Architect. Deposit £1 1s.

SEPTEMBER 13.—**Solihull.**—DWELLINGS.—Lapworth (six houses), Station-road, and Hockley Heath (six houses), Aylesbury-road and Stratford-road, for the R.D.C. Ewen Harper, Bro., & Co., architects, Ruskin Chambers, 191, Corporation-street, Birmingham. Deposit, £1 1s.

SEPTEMBER 13.—**Tynemouth.**—HOUSES.—Three blocks of semi-detached houses upon the Balkwell estate, for the C.B. J. F. Smillie, Borough Surveyor, 19 & 20, Howard-street, North Shields.

SEPTEMBER 13.—**Whitehaven.**—HOUSES.—For the erection of 82 houses, for the T.C. Borough Engineer, Town Hall, Whitehaven. Deposit £2 2s.

SEPTEMBER 14.—**London.**—HOSPITAL BUILDINGS.—Erection of an administration block, ward block, laundry block, caretaker's lodge, and outbuildings; re-conditioning of existing ward block at the Willesden U.D.C. Small-pox Hospital, Kingsbury, Middlesex. F. Wilkinson, Engineer to the Council, Town Hall, Dyne-road, Kilburn, N.W.6.

SEPTEMBER 14.—**Manchester.**—PAINTING.—Painting the interior and exterior of the Deansgate Library, for the T.C. City Architect. Deposit 10s. 6d.

SEPTEMBER 14.—**Mold.**—HOUSES.—Erection of 40 non-parlour houses and 18 parlour houses, for the Mold U.D.C. J. Griffith Hughes, architect and surveyor, Earl Chambers, Mold. Deposit £3 3s.

SEPTEMBER 14.—**Newcastle-on-Tyne.**—TELEPHONE EXCHANGE.—For the erection of the Central telephone exchange, Newcastle-on-Tyne, for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

SEPTEMBER 14.—**Rochester.**—ALTERATIONS.—Sundry alterations in formation of new kitchens and offices at St. Bartholomew's Hospital, under the superintendence of Messrs. Read & MacDonald, architects. Stoner & Sons, Quantity Surveyors, Boston House, 63–4, New Broad-street, London, E.C. Deposit £2 2s.

SEPTEMBER 14.—**St. Albans.**—PAINTING.—For internal redecorations of the Council's houses on the following sites:—Brewhouse Hill, Wheathampstead: Kinsbourne Green; Wilkins Green-terrace, Smallford; Park-street, for the R.D.C. Mr. Henry F. Mence, surveyor, 32, St. Peter's-street, St. Albans.

SEPTEMBER 14.—**Upton.**—SCHOOL.—Erection of school for 350 children at Upton, for the West Riding Education Committee. Education Department, County Hall, Wakefield.

SEPTEMBER 14.—**Wareham and Purbeck.**—COTTAGES.—Six non-parlour cottages at Langton Matravers, and a block of six non-parlour cottages at Corfe Castle, for the R.D.C. S. A. Jackson, architect, Dorchester.

SEPTEMBER 14.—**Willesden.**—ADDITIONS.—Erection of an administration block, ward block, laundry block, caretaker's lodge, and outbuildings, and reconditioning of existing ward block at the Small Pox Hospital, Kingsbury, for the U.D.C. Mr. F. Wilkinson, engineer, Town Hall, Dyne-road, Kilburn, N.W.6.

SEPTEMBER 15.—**Glasgow.**—EXCHANGE.—South-side employment exchange, for H.M. Office of Works. Architect, H.M. Office of Works, 122, George-street, Edinburgh. Deposit £1 1s.

SEPTEMBER 15.—**London.**—HOUSES.—Seven houses (14 sets of flats) on a site at Blackshaw-road, Tooting, S.W.17, for Wandsworth B.C. Mr. F. L. Poole, architect, 29, New Bridge-street, E.C.4. Deposit £2 2s.

SEPTEMBER 16.—**Belfast.**—HEATING.—For (1) general alterations, repairs, and redecoration; (2) heating and hot water supply; (3) electric lighting, for the C.B. Education Architect, Education Office, College-square, Belfast.

SEPTEMBER 16.—**Bournemouth.**—BUILDING.—Fire station, ladies' and gentlemen's conveniences, and two residences over same on the site now occupied by No. 226, Wimborne-road, Winton, for the C.B. F. P. Dolamore, Borough Engineer. Deposit £1 1s.

SEPTEMBER 16.—**Bray.**—HOUSES.—Twelve small houses at the Vevay, Bray, co. Wicklow, for the Public Utility Society, Ltd. F. S. Hall, 8, Westmoreland-street, Dublin.

SEPTEMBER 16.—**Chartham, near Canterbury.**—HOUSES.—Erection of 30 houses for the Kent County Council. Mr. F. W. Ruck, County Architect, 86, Week-street, Maidstone. Deposit £2 2s.

SEPTEMBER 16.—**Croydon.**—SHOPS AND DWELLINGS.—Erection of one block of nine shops and dwellings over on the site of Nos. 156 to 172, High-street, Croydon. The Borough Engineer, Town Hall, Croydon. Deposit £3 3s.

★SEPTEMBER 16.—**Stockport.**—PREMISES.—Adaptation of in Hooper-street, Stockport, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

SEPTEMBER 17.—**Doncaster.**—HOUSES.—Two houses in Bank Wood-lane, Rossington, adjacent to the sewage disposal works, for the R.D.C. W. R. Crabtree, surveyor, Nether Hall.

SEPTEMBER 17.—**Portsmouth.**—CONVENIENCE.—Erection of public convenience, Clarence Esplanade, for the T.C. Mr. Arthur W. Ward, City Engineer, Guildhall, Portsmouth. Deposit £2.

SEPTEMBER 17.—**Romford.**—BRANCH POST OFFICE.—Erection of at Dagenham, Romford, for the Commissioners of His Majesty's Works, Contracts Branch, King Charles-street, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

SEPTEMBER 18.—**Halifax.**—VARIOUS WORKS.—Excavator, mason and bricklayer, carpenter and joiner, slater and plasterer, plumber and glazier, electrician (wiring only to Nursery-lane scheme, section No. 4), and painter, for the county borough of Halifax; 156 houses—Bracewell farm (58 houses), Nursery-lane (section No. 3), 58 houses; Nursery-lane (section No. 4, Ovenden Cross), for the above-mentioned trades Borough Engineer, Crossley-street, Halifax. Deposit £2 2s.

SEPTEMBER 18.—**Warborough, Oxon.**—HOUSES.—Erection of three pairs non-parlour, for the Crowmarsh R.D.C. Offices of the Council, 7, St. Martin's-street, Wallingford, Berks.

SEPTEMBER 20.—**Deptford.**—DWELLINGS.—Erection of two blocks of dwellings on the Hughes Fields estate (Watergate-street area), Deptford, for the L.C.C. Architect to the Council, The County Hall (Room No. 3). Westminster-bridge, S.E.1. Deposit £2 (to the cashier).

★SEPTEMBER 20.—**Epsom.**—PIGGERIES.—Erection of piggeries and other incidental work at the West Park Mental Hospital, Epsom, for the London County Council. Architect to the Council, the County Hall (Room No. 3), Westminster Bridge, S.E. 1. Deposit £1 1s.

SEPTEMBER 20.—**Sheffield.**—SUB-STATION.—Transformer sub-station in Fitzwilliam-street, for the T.C. S. E. Fedden, general manager and engineer, Commercial-street. Deposit 10s. 6d.

SEPTEMBER 21.—**Hemsworth.**—SCHOOL.—New school for 520 children, together with caretaker's house, at Hemsworth Four Lane-ends, for the West Riding E.C. The Education Department, County Hall, Wakefield.

SEPTEMBER 21.—**Tandridge.**—HOUSES.—Erection of six houses (four class "A" and two class "B") for the Godstone R.D.C. Mr. Sydney F. Evershed, A.R.I.B.A., Lloyds Bank Chambers, Oxted. Deposit £3 3s.

★SEPTEMBER 21.—**Watford.**—TEA PAVILION AND CONVENIENCES.—Erection of tea pavilion and conveniences in Cassiobury Park, Watford, for the Borough of Watford. W. W. Newman, A.M.I.C.E., F.S.I., Borough Engineer, Municipal Offices, Watford. Deposit £2 2s.

SEPTEMBER 22.—**Prestwich.**—DEMOLITION.—Demolition of Langley House and the outbuildings adjoining, for U.D.C. Engineer and Surveyor to the Council, Town Hall.

★SEPTEMBER 22.—**Summertown, Oxford.**—TELEPHONE EXCHANGE.—Erection at Summertown, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

★SEPTEMBER 23.—**Armley, Leeds.**—EMPLOYMENT EXCHANGE.—Erection at Armley, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

★SEPTEMBER 24.—**East Greenwich.**—PUBLIC BATHS.—Erection of public baths and washhouses at Trafalgar-road, East Greenwich, for the Metropolitan Borough of Greenwich. The Town Clerk, Town Clerk's Department, Town Hall, Greenwich, S.E.10. Deposit £2 2s.

★SEPTEMBER 24.—**Tavistock.**—TELEPHONE REPEATER STATION.—Erection of, at Tavistock, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

SEPTEMBER 30.—**Maldon.**—REPAIRS.—Carrying out certain work for the preservation of St. Giles' Hospital ruins, Spital-road, Maldon, under the supervision of H.M. Office of Works. Borough Surveyor.

★OCTOBER 6.—**Clacton-on-Sea.**—CONVENIENCES.—Erection of public conveniences at East Cliff, for the U.D.C. Council's Surveyor, Council Offices, Clacton-on-Sea. Deposit £2 2s.

OCTOBER 8.—**Newton Abbot.**—HOUSES.—Seventy houses on their Broadlands housing site, for U.D.C. Mr. C. D. White, Surveyor, Town Hall.

NO DATE.—**Hemsworth.**—HOTEL.—Erection and completion of the new Melbourne Hotel, Barnsley-road, Garside & Pennington, architects and surveyors, Pontefract.

NO DATE.—**Newcastle.**—PREMISES.—Erection of premises, Cowgate, Newcastle, for the C.W.S. Architect's Department, 90, Westmorland-road, Newcastle.

NO DATE.—**Newton-Stewart.**—RECONSTRUCTION.—Of the Douglas-Ewart High School, Newton-Stewart, for the Wigtownshire E.C. Alex. Young, architect, 75, Victoria-street. Deposit £1 1s.

MATERIALS, etc.

SEPTEMBER 6.—**Stoke-on-Trent.**—MATERIALS.—Supply of cement, bricks, sanitary pipes, setts and kerbs, &c., for six months, to T.C. City Surveyor, Stoke-on-Trent.

SEPTEMBER 6.—**Warrington.**—CONDUITS.—Supply of earthenware conduits for one year, for the T.C. F. V. L. Mathies, Borough Electrical Engineer, Warrington. Deposit £1 1s.

SEPTEMBER 7.—**Bexley.**—ROLLER.—Supply of a single cylinder 8-ton steam road roller to the U.D.C. W. T. Howse, Surveyor, Council Offices, Bexleyheath, Kent

SEPTEMBER 7.—**Hull.**—STORES.—Supply of stores for one year to the Humber Conservancy Board. A. W. Franklin, Secretary, Conservancy Buildings, Hull.

SEPTEMBER 7.—**Westminster.**—MATERIALS.—For the supply of engineer's sundries, electric lamps, &c., for the B.G. Mr. W. J. Lickley, Clerk, Princes-row, S.W.

SEPTEMBER 7.—**York.**—MATERIALS.—For the supply of stoneware pipes, stone flags, kerb and edging, refined tar, building lime, slag (broken and unbroken), whinstone chippings, to the T.C. Mr. F. W. Spurr, City Engineer, Guildhall, York.

SEPTEMBER 8.—**Holborn.**—MATERIALS.—For the supply of ironmongery, gas and electrical fittings, &c., to the Board of Guardians. Mr. J. Cross, Clerk, 53, Clerkenwell-road, E.C.

SEPTEMBER 8.—**Tadcaster.**—SAND.—Supply of sand, suitable for slippery roads, for six months, for the R.D.C. Geo. A. Bromet, Clerk, Tadcaster.

SEPTEMBER 10.—**London.**—TELEGRAPH POLES.—Supply of Swedish, Norwegian, Finnish, or Baltic red fir and home-grown Scots fir telegraph poles, to be felled during the winter of 1926-7, and delivered during the following summer. The Controller, Post Office Stores Department, 17-19, Bedford-street, W.C.2.

SEPTEMBER 13.—**Bolton-upon-Dearne.**—MATERIALS.—Supply of road and sanitary materials for six months to the U.D.C. Mr. W. H. Adams, Surveyor, Bolton-upon-Dearne.

SEPTEMBER 13.—**London.**—MATERIALS.—Building materials, painter's goods, and timber, &c., for the Edmonton B.G. E. Ridley, clerk, 77, Bridport-road, N.18.

SEPTEMBER 14.—**Darlington.**—MATERIALS.—Supply of road, sanitary, and other materials to the T.C., for six months. Borough Engineer, Town Hall, Darlington.

SEPTEMBER 15.—**Dublin.**—MATERIALS.—Hardware, plumbing, steam fittings, &c.; timber, cement, slates and building materials; and white lead, paints, oils, turpentine, glass, &c., for the Grangegorman Mental Hospital. J. J. Doyle, Chief Clerk.

SEPTEMBER 16.—**Dublin.**—OILS.—Supply to the Great Southern Railways, Ireland, of cylinder oil, mineral lubricating oil (for blending purposes), and engine motion oil. Stores Superintendent, Inchicore, Dublin.

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SEPTEMBER 23.—**South Africa.**—LEAD PASTE.—Supply of white lead oil paste to the South African Railways and Harbours Administration. Department of Overseas Trade, 35, Old Queen Street, S.W. Reference BX, 2811.

ENGINEERING, IRON AND STEEL.

SEPTEMBER 6.—**Burma.**—BRIDGEWORK.—For the supply of bridgework (spans 10 of 100 ft. and 18 of 40 ft.), for the Burma Railways Co. Mr. F. C. Franks, Secretary, 109, Gresham House, Old Broad-street, E.C. Charge £1.

SEPTEMBER 7.—**Coulsdon and Purley.**—BRIDGE.—Reinforced concrete bridge at Foxley Hill-road, Purley, for the U.D.C. R. Chart, surveyor, 69, Bridgton-road, Purley.

SEPTEMBER 7.—**India.**—SPRINGS, &c.—For the supply of (*a*) 6,265 helical and volute springs, and (*b*) solid-drawn steel boiler tubes. Madras & Southern Mahratta Railway Co., Offices, 25, Buckingham Palace-road, S.W. Charge £1 1s. each.

SEPTEMBER 13.—**China.**—WELL MACHINERY.—Supply to the British Municipal Council, Tientsin, China, of artesian well machinery, comprising air compressors, main pumps, and meter, with motors and piping. Messrs. J. & A. Leslie & Reid, 72A, George-street, Edinburgh.

SEPTEMBER 13.—**Frinton-on-Sea.**—GROYNES.—Construction of sixteen groynes (concrete piles and timber planking) on the foreshore, for the U.D.C. Surveyor, Council House, Frinton-on-Sea.

SEPTEMBER 13.—**Neston and Parkgate.**—MAINS.—Construction of a service reservoir at Neston, together with about a mile of 6 in. pumping main and shorter lengths of piping in connection with the reservoir, for the U.D.C. H. B. Ward, Chartered Civil Engineer, Commerce Chambers, 15, Lord-street, Liverpool. Deposit £3 3s.

SEPTEMBER 13.—**St. Marylebone.**—RUNWAY.—Supply and fixing of an electric overhead runway for removing house refuse from storage pit to screening plant, together with steel-frame building. Borough Engineer, Town Hall, Marylebone-road, N.W.1.

SEPTEMBER 15.—**Cowlyd.**—PIPES.—Excavating and refilling pipe trenches, providing, hauling, laying and jointing about 4,800 lin. yds. of cast-iron S. and F. water pipes, 18 in., 15 in. and 12 in. internal diameter, from Cowlyd Lake to the existing pressure reducing tanks above Dolgarrog, together with all sluice valves, air valves, screening chamber, pressure reducing tank, fittings, and other works connected therewith, for the Conway-Colwyn Bay Joint Water Supply Board. Chas. F. Farrington, engineer, Trinity-square, Llandudno. Deposit £5 5s.

SEPTEMBER 15.—**Siam.**—BRIDGES.—Superstructures of steel railway bridges, for the Administration of the Royal State Railways of Siam, Bangkok. C. P. Sandberg, 40, Grosvenor-gardens, London, S.W.1. Charge £1 10s.

SEPTEMBER 17.—**London.**—STEELWORK.—Structural steelwork for the South Indian Railway Co. Robert White & Partners, Consulting Engineers, 3, Victoria-street, S.W.1.

SEPTEMBER 20.—**Plymouth.**—CULVERT.—Construction of about 40 yds. of 6 ft. diameter circular brick and concrete culvert, together with manholes and other incidental works across the Corporation tip at Weston Mill, for the C.B. J. Wibberley, Borough Engineer and Surveyor.

SEPTEMBER 30.—**Calcutta.**—WATER SUPPLY.—Supply and laying in prepared trenches, steel and cast-iron pipes, &c., for the conduit from the new reservoir at Tallah to the new pumping station, for the Corporation. Chief Engineer.

NOVEMBER 1.—**Egypt.**—STEELWORK.—For (*a*) the supply and erection of steel and ironwork for lock, regulator, swing bridge and subsidiary works; (*b*) the construction of masonry of a lock, regulator and subsidiary works, at Kafr Bulin, for the Ministry of Public Works. Chief Inspecting Engineer, Egyptian Government, 41, Tothill-street, Westminster, S.W.1. Deposit £2 14s. 6d.

DECEMBER 1.—**Denmark.**—BRIDGE.—Construction of the superstructure, substructure, as well as approach spans, with shore piers, for a double-track railway bridge across Lillebelt, for the Danish State Railways. Danish Legation, London. Deposit, Danish Kroner 500.

ROAD, SEWERAGE, AND WATER WORKS.

SEPTEMBER 6.—**Bognor.**—ROADS.—Making-up of various roads, &c., under the Private Street Works Act, 1892, for the U.D.C. J. Draper, Surveyor, Council Offices, High-street, Bognor.

SEPTEMBER 6.—**Clutton.**—WATERWORKS.—For the construction of tank and laying of pipe, &c., in the parish of East Harptree, for the R.D.C. Mr. W. T. Hawker, Court House, Temple Cloud, near Bristol.

SEPTEMBER 6.—**Dublin.**—ROADS.—For the resurfacing of the undermentioned roads in bituminous concrete: Navan-road, approximately 6 miles, Cabra to Clonee; Lucan-road, approximately 4 miles, Chapelizod to Convent, Lucan, for the Dublin C.C. County Surveyor, 11, Parnell-square, Dublin. Deposit £2 2s.

SEPTEMBER 6.—**Friern Barnet.**—ROADS.—For making-up of Athenæum-road, Chandos-avenue, and Oakleigh-gardens, for the U.D.C. Mr. P. F. Kindell, Surveyor, Council Offices, Friern Barnet, N.

SEPTEMBER 6.—**Leatherhead.**—SEWERAGE WORKS.—Construction of tanks, percolating and contact filters, and other works, at the Outfall, Randalls-road, for the U.D.C. Mr. William Fairley, Parliament Mansions, Victoria-street, Westminster, S.W.1. Deposit £3 3s.

SEPTEMBER 6.—**Manchester.**—PAVING.—For sewering, draining, flagging (natural and artificial flags), paving (concrete), &c., Melba-street, Openshaw. Sewering, draining, paving (concrete), &c.: Passage behind 1–31, Partington-street, 30–56, Fletcher-street, &c., Newton Heath; passage behind 29–63, Douro-street, 2–34, Partington-street, &c., Newton

Heath; passage behind 2–8, Roslin-street, 1–11, Sumac-street, &c., Clayton; passage behind 5–23, Ralph-street, and 1,038–1,056, Ashton New-road, Clayton, for the T.C. Chairman, Paving, &c., Committee.

SEPTEMBER 6. — **Tottenham.** — SEWERAGE. — Road construction work and works of sewerage in connection with their housing scheme No. 5, at the White Hart-lane estate, for the U.D.C. E. C. P. Monson, Finsbury Pavement House, 120, Moorgate, E.C.2. Deposit £3.

SEPTEMBER 7.—**Cardiff.**—ROADS.—For (1) private street works and surface water drains in: (*a*) Greenfield-road and Westfield-road, (*b*) Milwards Terrace-lane, in the parish of Whitchurch, (*c*) St. Edeyrn-road, in the parish of Llanedarne; (2) construction of about 60 yds. 9 in. diameter earthenware pipe surface water drain with catchpits at Pentwyn, in the parish of Pentyrch; (3) reconstruction of culvert, Cefn Mably, in the parish of Llanvedw, for the R.D.C. Mr. W. Farrow, surveyor, Park House, 20, Park-place, Cardiff.

SEPTEMBER 7.—**London.**—REPAIRS.—For (*a*) constructing reinforced concrete foundations in Rock-street, part of St. Thomas's-road and part of Drayton Park; (*b*) paving with asphalt the carriageways of Rock-street and Martineau-road and parts of the carriageways of St. Thomas's-road, Drayton Park and Highbury-hill; and (*c*) supply of about 96,000 creosoted yellow deal paving blocks, for the Islington B.C. Borough Engineer.

SEPTEMBER 7.—**Newton Abbot.**—WATER MAINS.—Providing and laying 1,500 yds. of 6 in., 1,300 yds. of 4 in., and 400 yds. of 3 in. cast-iron water mains, &c., for the R.D.C. S. C. Chapman, Engineer, 12, Summerland-street, Newton Abbot. Deposit £2 2s.

SEPTEMBER 7.—**Normanton.**—ROADS.—For the making-up of Dalefield-road, for the U.D.C. Mr. F. W. Copp, Surveyor, Council Offices, Normanton.

SEPTEMBER 7.—**Torquay.**—SEWERS.—For the construction of 1,500 yds. of stoneware pipe relief sewers, for the T.C. Borough Engineer, Torquay. Deposit £2 2s.

SEPTEMBER 8. — **Dalbeattie.** — RECONSTRUCTION. — Reconstruction of approximately 10,134 sq. yds. of roadway, being a portion of High-street, for the T.C. Burgh Surveyor. Deposit £2 2s.

SEPTEMBER 8.—**West Ham.**—MAKING-UP.—Of Lincoln-road, Elkington-road, and portions of Cumberland-road and Esk-road, Plaistow, for the C.B. Borough Engineer, Town Hall, West Ham, E.15. Deposit £1.

SEPTEMBER 9.—**Edinburgh.**—WIDENING.—For (*a*) Lochend-road, widening from Marionville-road to the South Leith branch of the L.M.S. Railway (carriageway, footpaths, &c.); (*b*) Wrought-iron fencing, hand-rail, &c., at the above; (*c*) Baird-avenue, gardens, terrace, grove, &c., Saughtonhall (carriageway, footpaths, &c.), for the T.C. A. Grierson, Town Clerk.

SEPTEMBER 9.—**Falmouth.**—DRAINAGE.—Construction of short lengths of stoneware and cast-iron sewers of 7 in., 9 in. and 12 in. diameter, together with manholes and other appurtenances; also for the construction of various sewer connections, house connections and other works, all in accordance with the specification and drawings prepared by Mr. G. Midgley Taylor, Civil Engineer, of the firm of Messrs. John Taylor & Sons, Caxton House, Westminster, S.W.1, E. P. Skinner, Town Clerk. Deposit £5.

SEPTEMBER 9. — **Tavistock.** — PIPING. — Excavating and laying about 250 yds. of 9 in. and 80 yds. of 6 in. piping, for a sewer at Horrabridge, for the R.D.C. T. H. Harris, Sanitary Inspector, Town Hall Chambers.

SEPTEMBER 11.—**Lytham St. Annes.**—ROADS.—Making-up of Caryl-road, Kensington-road, Mayfield-road, Rutland-road, Rowsley-road, and St. Leonard-road (footpaths only), for the T.C. Borough Surveyor, Town Hall, St. Annes.

SEPTEMBER 13.—**Meath.**—ROAD.—Resurfacing in bituminous macadam Dublin-Navan road—approximately four miles—Clonee to Black Bull, for the C.C. E. J. Duffy, County Surveyor, County Hall, Navan. Deposit £1.

SEPTEMBER 13.—**Skegness.**—WATERWORKS.—Construction of new well and heading at Welton, for the U.D.C. R. W. Jenkins, Council Offices, Skegness. Deposit £5.

SEPTEMBER 13. — **Wirral.** — SEWERAGE. — Construction of 4 miles of sewering in the parish of Grange, for the R.D.C. W. Webb Shennan, engineer and surveyor, 15, Hamilton-square, Birkenhead. Deposit £3 3s.

SEPTEMBER 14. — **Dublin.** — WIDENING. — Widening and alteration of certain concrete roads at Marino, for the C.B. City Engineer, 28, Castle-street. Deposit £1.

SEPTEMBER 13. — **York.** — PAVING. — Making-up, levelling, paving, &c., of the following streets:—(1) Garland-street, (2) Howe Hill-road, (3) Linton-street, (4) back Poppleton-road, for the T.C. F. W. Spurr, City Engineer.

SEPTEMBER 14.—**Tonypandy.** — ROADS. — For the formation of footpaths, construction of retaining walls, and completion of bowling green, for the Cambrian Welfare Association. Messrs. R. S. Griffiths & Partners, architects, Tonypandy.

SEPTEMBER 15.—**Belfast.**—SEWER.—Laying a length of sewer at Whitehouse, for the R.D.C. W. D. R. Taggart, C.E.

SEPTEMBER 15. — **Epsom.** — SEWERAGE. — Construction of short lengths of stoneware sewers of 7 in. and 9 in. diameter, together with manholes and other appurtenances, for the Elmbrook estate, for the R.D.C. A. R. Cotton, clerk, Ashley House, Ashley-road. Deposit £5.

SEPTEMBER 15.—**Heston.**—SEWER.—Surface water sewer (approximate length 1,055 lin. yds.) in the Heston-road, for Heston and Isleworth U.D.C. J. G. Carey, engineer and surveyor, the Council House, Hounslow. Deposit £2 2s.

SEPTEMBER 15.—**Nantwich.**—SEWERAGE.—Laying of approximately 3,360 lin. yds. of 12 in. and 9 in. pipe sewers, together with the construction of the necessary manholes, &c., in connection with the Shavington scheme, for the R.D.C. H. Crabtree, engineer and surveyor, 1, Dysart Buildings. Deposit £1 1s.

SEPTEMBER 15.—**Whickham.**—SEWERS.—Sewers in connection with the houses in course of erection on the Rectory housing site; also for the excavation of the mouth of the access road to such site, for the U.D.C. Thos. Fenbow, surveyor.

SEPTEMBER 16.—**Cardiff.** SURFACING.—Provision, laying and maintenance of mastic asphalt surfacing on a foundation prepared by the Corporation in James-street, Docks, Cardiff, for the T.C. Cecil G. Brown, Town Clerk.

SEPTEMBER 18.—**Eccles.**—PAVING.—Sewering, paving, metalling, flagging and making-up of the following front and back streets and passages: (*a*) Tarmacadam carriageways and flagged footways in Park-avenue passage, street off Andover-street, Lewis-street, Hardy-street, Blantyre-street, Stanley-road, Wood-street, Grecian-street, Monton-avenue, Gordon-road, Howard-avenue, Nelson-avenue, and Vincent-avenue; (*b*) sett paving and flagging in back streets and passages, Eliza Ann-street, Irwell-grove area, Park-avenue area, back Andover-street, Watson-street area, Beech-street area, Trafford-road area, Nelson-street area, Blantyre-street area, Alexander-road area, Wood-street area, Phillip-street area, Monton-avenue area and Gordon-road area, for the T.C. Borough Surveyor. Deposit £2 2s.

SEPTEMBER 20. — **Plymouth.** — TUBES. — Laying of about 45 yds. of 3 ft. 9 in. by 2 ft. 6 in. concrete tubes, together with manholes and other incidental works across the Corporation tip at Lipson Vale, for the C.B. J. Wibberley, Borough Engineer and Surveyor.

SEPTEMBER 25.—**Lytham Saint Annes.**—SEWERS.—Construction of concrete main sewers, together with manholes, ventilating shafts, and other appurtenant works under the following contracts, viz.:—Contract No. 3: approximately 3,000 yds. varying from 9 in. to 36 in. diameter; contract No. 4: approximately 1,333 yds. varying from 9 in. to 21 in. diameter, for the T.C. G. W. Lawson, Borough Engineer and Surveyor. Deposit £5.

OCTOBER 8.—**Newton Abbot.**—SEWERS.—Construction of roads and sewers in connection with the second instalment of their Broadlands housing scheme, for the U.D.C. C. D. White, surveyor, Courtenay-street. Deposit £2 2s.

Auction Sales, Tenders, etc.

SEPTEMBER 9 AND 10.—**Kent.**—**H. & R. L. Cobb, amalgamated with Daniel Smith, Oakley & Garrard, will sell, on the premises, by order of the contractors Kent, Isle of Grain Aerodrome, building materials and machinery; also generating plants, engines, &c. Auctioneers, 4 and 5, Charles-street, St. James's-square, S.W.1, and Cathedral Chambers, Rochester.**

✱SEPTEMBER 14.—**Congleton.**—Perry & Phillips will sell, previous to demolition of the mansion at Sommerford Park, Congleton, the whole of the interior and exterior fixtures and fittings. Auctioneers, 59, High-street, Bridgnorth.

SEPTEMBER 14.—**Hammersmith.**—**By order of the Hammersmith B.C. To be sold by tender as a whole or in two lots, freehold building estate of 3¼ acres, known as "Parkside" Ravenscourt Park, and No. 17, Ravenscourt Park, Hammersmith, extending back to the rear of the gardens of residences in Goldhawk-road, and having upon it two detached residences, cottage, and outbuilding. Vacant possession on completion. Town Clerk, Town Hall, Hammersmith W.6.**

SEPTEMBER 14, 15 AND 16.—**Stratford, E.**15.—J. Hibbard & Sons will sell, without reserve, by order of G. C. Hewett & Co., on the premises, 110–140, High-street, large stock of dry timber, also machinery. Auctioneers. 15, Newington Green. Islington, N.16.

SEPTEMBER 15.—**Ealing.**—Knight, Frank & Rutley will sell at the Hanover-square Estate Room, by direction of the Ealing and Acton Borough Councils, freehold building land; frontage about 3,735 ft. to Pope's-lane and Lionel-road. Auctioneers, 20, Hanover-square, W.1.

SEPTEMBER 16.—**New Ferry.**—Paterson & Thomas will sell at the Law Association Rooms, 14, Cook-street, Liverpool (subject to conditions of sale and to not having been previously disposed of by private treaty) 20,795 sq. yds. of land in Stanley-road, New Ferry, together with the family residence erected on part thereof, known as 31, Stanley-road. Auctioneers, 16, Cook-street, Liverpool.

SEPTEMBER 17.—**Littlestone-on-Sea.**—Knight, Frank & Rutley will offer for sale, in numerous lots, in the Hall, Littlestone-on-Sea (kindly lent by Sir Robert Perks), freehold building plots, 30 private residences and cottages, and the Grand Hotel, on the Littlestone-on-Sea Estate; also adjoining accommodation holdings, arable and grazing land, comprising in all an area of about 700 acres. Auctioneers, 20, Hanover-square, W.1; and 41, Bank-street, Ashford, Kent.

SEPTEMBER 21. — **Battersea.** — J. T. Skelding & Co. will sell on the premises, Candahar Works, Candahar-road, Battersea, S.W., by order of Messrs. John Garlick (1910), Ltd., owing to part of the premises being let, antique and other surplus interior and exterior fitments and fittings and building materials. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

SEPTEMBER 22.—**London.**—Knight, Frank & Rutley will sell, in the Hanover-square Estate Sale Room (unless previously sold privately), Barnet, freehold residential and building estate situated on the Great North-road, known as Greenhill Park, comprising desirable residence, also three well-situated private residences—"Park Lodge," Station-road, "Woodlands," Gloucester-road West, "Gothic Cottage"—valuable building land extending to about 41¼ acres. With the exception of "Gothic Cottage," vacant possession will be given on completion of the purchase. Auctioneers, 20, Hanover square, W.1.

SEPTEMBER 25.—**Tunbridge Wells.**—Hampton & Sons will sell, at the Swan Hotel, Tunbridge Wells, portions of the Ely Place Estate, Frant, with road frontages of nearly 9,000 ft. Auctioneers, 20, St. James's-square, S.W.1.

SEPTEMBER 29.—**Sutton.**—J. T. Skelding & Co. will sell, without reserve, by order of the Banstead Downs Estate, Ltd., on the premises, Brighton-road, Sutton, plant and materials; also stock of timber. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

Competitions.

(*See Competition News page* 362.)

Public Appointments.

SEPTEMBER 8.—**Northallerton.**—Temporary Architectural Assistant required in the Architect's Department, by the North Riding County Council. Herbert G. Thornley, Clerk to the Council, County Hall, Northallerton.

SEPTEMBER 13.—**London.**—ARCHITECT AND SURVEYOR.—One architect and one quantity surveyor required by the Under Secretary for Mines, Establishment Branch, Mines Department, Dean Stanley-street, London, S.W.1

✱NO DATE.—**Kenya.**—ARTISAN (CARPENTER AND JOINER).—Required by the Government of Kenya for the Kenya and Uganda Railway, for a tour of 20 to 30 months' service, with possible extension. Apply at once by letter, Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/14707.

✱NO DATE.—**Kenya.**—Foremen (2) required by the Government of Kenya for the Public Works Department, for a tour of 20 to 30 months' service, with possible extension. Apply at once by letter, the Crown Agents for the Colonies, 4, Millbank, London, S.W.1. quoting M/14390.

✱NO DATE.—**Sierra Leone.**—FOREMAN OF WORKS.—Required by the Government of Sierra Leone for the Engineering Branch of the Railway Department for two tours of 12 to 18 months' service, with possible extension. Apply at once by letter, Crown Agents for the Colonies, 4, Millbank, Westminster, S.W.1, quoting M/14761.

PATENTS.

APPLICATIONS PUBLISHED.*

249,351.—H. E. Hodgson: Combined wash-stand and water-closet.

249,294.—J. S. Withers: Shuttering for casting concrete walls *in situ*.

239,512.—Dr. H. Kupelwieser: Concrete walls.

249,898.—H. Wilson-Hughes: Roofing materials and lining-boards.

249,908.—Braithwaite & Co., Engineers, Ltd., and J. C. Telford: Building-construction.

227,442.—A. P. Dessenne: Pipe joint.

249,936.—C. Ritson: Building-blocks.

250,012.—F. J. Morgan: Elevator or hoist for building.

243,307.—W. M. Keck: Wall casings or tubing.

236,931.—N. V. Hybinette: Heat-enduring structures.

250,100.—Mannesmannrohren-werke: Pipe-joints.

243,745.—Mairich Akt.-ges.: Bakehouse ovens.

249,076.—K. Pahl: Method of constructing sheet piling.

249,279.—J. F. Wake: Drying of road-making and other aggregates.

249,570.—R. E. Leetham: Elevators.

249,573.—W. Kochlin: Sheet-metal piling.

232,574.—E. J. E. Dewoitine: Beams, spars, and like structural elements.

249,701.—A. B. Tattersall: System of building-construction.

249,720.—W. S. Cordrey: Manufacture of building-bricks and tiles.

243,363.—H. Junkers: Metal lattice-work skeletons for buildings.

249,776.—W. Reed: Damp-proof sheets for walls of houses.

249,777.—H. Junkers: Metal lattice-work skeletons for buildings.

244,449.—Pintsch Akt.-ges.: Methods or plans for impregnating wood.

245,743.—K. Pahl: Metal-sheet piling.

249,788.—W. Neisener: Securing of wooden planking.

224,553.—Sieverts Fabriks Aktiebolag: Waterproof electric fittings.

250,320.—H. Pantin, C. F. Vincent, and A. E. Ingold: Apparatus for forming dovetail grooves or slots in wood.

250,327.—Aveling & Porter, Ltd., and F. W. Smart: Apparatus for use in the treatment of roads.

* All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

PROPOSED NEW BUILDINGS & OTHER WORKS*.

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

ARMAGH.—The C.C. is to erect a residence at the County Sanatorium, at a cost of £2,050.

ATHERSTONE.—The R.D.C. has approved plans for the erection of over 100 houses in various parts of the district.

BALLYMENA.—The R.D.C. is to apply for a loan of £8,695, for the erection of 50 labourers' cottages.

BOLTON.—The T.C. passed plans: A. S. Woods, amended plan of five houses, Cromdale-avenue; Rev. F. Kershaw, addition to church, Hawthorne-street; J. E. Palton, bungalow, Ashbourne-avenue; F. H. Cartwright, 11 houses, Pengwern-avenue; F. Morris, house, Bromwich-street; A. Coward, six houses, Danesbury-street; J. Kenyon, two houses, Baythorpe-street; J. Moore, bungalow, Blackburn-road, and amended plan of two bungalows, Blackburn-road; Dri-ped, Ltd., lavatory accommodation, Weston-street; Tillotsons Newspapers, Ltd., lavatory accommodation, Mealhouse-lane; Bolton Conservative Building Association, Ltd., lavatory accommodation, Bradford Buildings, Mawdsley-street.

BOVEY TRACEY.—An inquiry has been held into the question of the valuation of a site for the Bovey Tracey housing scheme.

BRADFORD.—Plans have been prepared for new banking premises in St. James Market. The City Architect is responsible for the scheme and tenders are to be invited.

BRIGG.—The U.D.C. has decided to apply for a loan of £16,500 for the erection of 50 houses, and also for a loan of £400 for the purchase of the necessary land.

CARLTON (YORKS.).—The Rothwell U.D.C.'s Surveyor has prepared plans for 26 houses. Tenders are to be invited.

CARBIS BAY.—The Bishop of Truro has received from an anonymous donor the sum of £7,000 towards the provision of a new church at Carbis Bay.

CHEADLE.—The Sanitary Committee approved the following plans: House at Brookhouse-lane, Bucknall, for Mrs. Rowley; house at Heath House, Tean, for Mr. W. Whiston; two bungalows at Brookhouse-lane, for Mr. Perry; two new houses at Cheddleton, for Messrs. Clowes & Askey; bungalow in Caverswall Wood, for Mr. Mills; composite bungalow at Brookhouse-lane, for Messrs. Plumbley & Moore.

CHEPSTOW.—The Ministry has agreed to contribute half the cost of reconstructing the bridge over the Neddern Brook and the widening of the approaches between Caerwent and Caldicot, for the R.D.C.

CHISWICK.—The U.D.C. are carrying out by direct labour the decorative works and painting of the Hogarth Boys' and Infants' school, in Duke-road. Mr. E. Willis is the engineer.

CHORLEY.—The T.C. has passed plans: Pair semi-detached houses, Harpers-lane, for J. Rigby; seven bungalows, Butterworth-brow, for W. Carr & Son; three houses in Foster-street and three houses in Cobden-street, for the Fosterfield Mill Co.

COCKERMOUTH.—The R.D.C. has accepted a tender of £20,040 for the widening of the famous Lakeland road between Lodore Falls and the foot of the Honister Pass.

DARLINGTON.—The T.C. has passed plans:—C. H. E. Bridgen (N.E.R. Cottage Homes and Benefit Fund), four bungalows, Neasham-road, opposite The Dog and Gun Farm; J. E. Chilton, four houses, corner of Holmlands-road and Deneside-road; H. B. Richardson, two bungalows, Durham-road; H. B. Richardson, bungalow, Durham-road; J. E. Chilton, four houses, Durham-road, between Thompson-street East and The Leas; J. E. Chilton, 32 houses, Audley-street, two houses, Willow-road.

DONCASTER.—A private contractor has taken over a site from the R.D.C. and is making a start with 47 houses, which are to cost £424 each.

DUBLIN.—The following plans for new buildings and works of construction in Dublin have been approved by the City Architect, Mr. Horace T. O'Rourke: Adelaide-road (new wing), Royal Victoria Eye and Ear Hospital; 11 and 12, Grattan-crescent (rebuilding of return building), P. Connell; Iona-road, St. Columba's church (new sacristy), Rev. Nolan, P.P.

ELLAND.—Eleven pairs of bungalows are to be erected for Mr. Walter Brenard. Mr. Henry Thompson, Westgate, Elland.

ENNISCORTHY.—The U.D.C. has instructed the Surveyor to prepare estimates for four five-roomed houses.

EVESHAM.—The Borough Surveyor has been given instructions to proceed with the preparation of the necessary plans and specifications in respect of 48 houses.—Plans passed: Four houses on Briar Close housing site, for F. G. Cole; W. S. Robbins; A. J. Howard, and H. G. Roberts; bungalow on Briar Close housing site, for Mrs. Jane Keziah Downes.

FELIXSTOWE.—Plans have been passed by the U.D.C.:—E. J. H. Raffe, store building on land near St. Andrew's-road; F. I. Franks, pair semi-detached houses at the corner of St. Andrew's-road and Constable-road; J. Jennings, pair semi-detached cottages in Gulpher-lane.

GALWAY.—The C.C. propose to extend Woodlands Sanatorium by means of a pavilion, at the cost of £8,500.

GLENSHEE.—A sale of work has been held on behalf of the manse rebuilding fund of Cray U.F. Church.

HARROW.—Plans have been approved by the Council for four houses in a new road off Northolt-road, for J. Plowman; 20 houses, Whitmore-road, by J. Kendall; public garage in Pinner-road, for Phillips & Davies, by F. W. Charity.

HAYES.—The U.D.C. has passed plans for two houses in Wood End Green-road, submitted by A. L. Russell; and six houses in Botwell-lane, by B. Elcock.

HORSHAM.—The M.H. has now sanctioned a loan by the U.D.C. for the purchase of a housing site for the second Crawley-road scheme.

KENMORE.—A sum of £190 has been raised by a sale of work in connection with Kenmore Parish Church for church improvements.

LANCING.—The Steyning West R.D.C. has decided to purchase three acres of land near Adison-road for a housing site.

LEE S.—The T.C. has approved plans: F. S. Winterburn, two semi-detached houses, Copgrove-road and Gipton Wood-place, Potternewton, and six semi-detached houses, Hartley-avenue, Woodhouse; M. Bristow, two semi-detached houses, Stainbeck-road, Chapel Allerton; Dennison & Stead, four semi-detached houses, Kirkstall-lane, Headingley; B. W. Clayforth, four semi-detached houses, Moor Grange-rise, Headingley; F. Galley, five houses, Grove Hall-avenue, Beeston; Purdy & Son, four semi-detached houses, Foundry-lane, York-road; W. C. Rodgers, four semi-detached houses, Talbot-parade, Roundhay; A. Cryer, four houses, Skelton-terrace, off York-road; A. S. Wadsworth, four bungalows and four semi-detached houses, Water-lane, Farnley; C. H. & F. Lax, 20 semi-detached houses, Easterley-crescent, Harehills; T. E. Ellison, eight semi-detached houses and one detached house, Lancaster-grove and Victoria-grove, Bramley; H. B. James, eight semi-detached houses, The Drive and Lidgett-lane, Gledhow; The Governors of the Leeds Grammar School, bungalow, Playing Fields, Otley Old-road, Headingley; J. W. Carr, two semi-detached houses, Whinfield, Adel; Alice Carey, two semi-detached houses, Roman-avenue, Ring-road, Moortown; A. Dickenson, four semi-detached houses, Devonshire-avenue, Roundhay; G. Monkman, house, Coldwell-road, Cross Gates; F. Galley, three houses, Grove Hall-drive, Beeston; J. B. Johnson, two semi-detached houses, Thorn-lane, Gledhow; W. Ratcliffe & Son, house, Broomfield, Farrer-lane, Adel; N. & R. Webster, bungalow, Ring-road, Moortown; Albert Burrow, house, Grove Hall-parade, Beeston; S. McLean May, bungalow, Knot-lane, Adel; S. Drake, two semi-detached houses, Tinshill-lane, Horsforth.

LEXDEN AND WINSTREE.—Six houses are to be erected at Birch, and six at Layer-de-la-Haye, by the R.D.C.

LIVERPOOL.—The City Council Tramways Committee recommend that application be made to the Electricity Commissioners for sanction to the borrowing of £95,600 for new electric mains, services, substations, and equipment for the Norris Green housing estate. The committee have also submitted a letter forwarding the Electricity Commission's formal sanction to the borrowing of £60,000 for the provision of electric mains and services on the Walton-Clubmoor housing estates.

LOFTHOUSE.—A site has been acquired upon which the U.D.C. propose to erect an additional 10 houses.

LUTON.—The Co-operative Society has purchased land in the High Town district for the purpose of a new branch premises.

MIDDLESBROUGH.—The Tyne Tees Steam Shipping Co., Ltd., is spending £18,000 on repairs to their wharves on Tees-side.

MINEHEAD.—A lady who remains anonymous has offered £400 towards the sum of £1,900 required for building extensions being carried out at the Minehead and West Somerset Hospital.

MOLD.—The U.D.C. are proposing to make alterations and improvements to their sewerage and sewage disposal works, and have asked their consultant engineers, W. H. Radford & Son, of Nottingham, to prepare a report for their consideration.

NORWICH.—A new reinforced concrete factory is to be erected in Northumberland-street for W. H. H. Clarke & Co. Messrs. Mullen & Lumsden are the builders, and A. F. Scott & Sons, FF.R.I.B.A., are the architects.

PERSHORE.—The Co-operative Society are to erect new premises in the High-street, plans for which have been passed by the R.D.C.

ROTHWELL-HAIGH.—The U.D.C. propose to erect 52 houses in accordance with plans prepared by the surveyor. Tenders are to be invited for the work.

ST. FAITHS.—The R.D.C. are to build four more houses at Wroxham at a cost of £1,450, and also application is to be made to the M.H. for permission to build 24 more houses, two in Beeston, four in Drayton, eight in Catton, four in Heliesdon, two in Crostwick, and four in Salhouse.

SMALLBURGH.—The R.D.C. has decided to erect 18 houses.

S. DUBLIN.—The R.D.C. propose to convert the present Tallaght Aerodrome into 40 residences, at a cost of £6,800.

SOWERBY BRIDGE.—The U.D.C. are to erect 50 houses upon their newly-acquired Beech Wood housing estate.

STAINES.—The R.D.C. has approved plans for two bungalows, London-road, Stanwell, from J. Webb; three houses, Hatton-road, Harlington, R. C. Hetherington.

THORPE (YORKS).—It is proposed to erect 12 houses upon a site in accordance with plans prepared by the U.D.C.'s surveyor.

UXBRIDGE.—The following plans were approved by the R.D.C.: House, Sweetcroft-lane, Hillingdon; eight bungalows, Hillingdon Village estate; two bungalows, Drayton House estate, West Drayton; two houses, Wood End-lane, Northolt.

WAKEFIELD.—Plans are being prepared for new banking premises for Lloyds Banking Co. at the upper end of Westgate. Mr. Watson is the architect.

WEXFORD.—The C.C. has decided to use the Government grant of £36,976 for the improvement of the Wexford-Enniscorthy road by direct labour.

FIRES.

BURTON-ON-TRENT.—Damage to the extent of from £10,000 to £12,000 has been caused by a fire on the premises of the English Grains Co., in the L.M. & S.R. Co.'s wharf.

READING.—Damage to the extent of £25,000 was caused by a fire which destroyed Caversham Park mansion.

* See also our List of Contracts, Competitions, etc.

ESTIMATING ON RIGHT LINES

Everyone whose business it is to quote for building work should master the principles upon which estimating is based. These principles are clearly explained and illustrated in

'HOW TO ESTIMATE'

by J. T. REA,

a unique and invaluable work which is not excelled in thoroughness or in scope by any similar book known.

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B. T. BATSFORD, LTD.

Publishers, 94, High Holborn London, W.C.1

TRADE NEWS

Mr. Joseph Armitage, whose craftsmanship is widely appreciated, has removed to workshops near the western end of Lambeth Bridge, for work in wood, stone, plaster, colour, and gilding, 8, Grosvenor-road, Westminster, S.W. 1.

The latest addition to Station-road, Harrow, is the firm of Cakebread, Robey & Co, Ltd., builders' merchants and ironmongers, whose headquarters are at Caroba Works, Wood Green. Eighteen months ago the directors acquired the freehold of a large piece of land next the Marquis of Granby, and have erected an up-to-date builders' merchants' establishment. One great advantage the architects and builders and contractors of the district will find will be a well-planned and up-to-date showroom.

A film illustrating the construction of upwards of 13 miles of B.R.C. reinforced concrete roads at Tilbury will be shown at the Picturedrome, Worthing, on September 4, at 11 a.m., on the occasion of the meeting of the West Sussex surveyors. The B.R.C. will be pleased to receive applications for the exhibition of this film, together with their other film, entitled "Constructing a Reinforced Tarmacadam Road," from all interested. Applications should be made to the British Reinforced Concrete Engineering Co., Ltd., Roads Department, King's Buildings, Smith Square, London, S.W.1.

Contractor's Plant.

Builders and contractors and builders' merchants, as well as all users of plant, especially local authorities, will be interested in three catalogues recently issued by The Phœnix Engineering Co., Ltd., of Chard, dealing with "Tar and Pitch Boilers, Spraying and Spreading Machines and Accessories," "Hand and Mechanical Pumps for all Purposes," and "Municipal Plant and Appliances." Apparatus and equipment for all classes of work are shown, each item being accompanied by a full description and price list.

PRICES CURRENT OF MATERIALS

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 5 6
Second Hard Stocks	3 10 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 13 3	Best Blue Pressed Staffs	9 5 0
Do. grooved for Plaster	2 15 3	Do. Bullnose	9 15 0
Do. Bullnose	3 8 3	Blue Wire Cuts	7 5 0
Best Stourbridge Fire Brick :— 2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—

Best White Ivory, and Salt Glazed Stretchers	21 10 0	D'ble Str'tch'rs	30 0 0
		D'ble Headers	27 0 0
Headers	21 0 0	One Side and two ends	31 0 0
Quoins, Bullnose and 4½in. Flats	28 0 0	Two Sides and one End	32 0 0
		Splays and Squints	29 10 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. " "	2 4	4 in. " "	3 6

	s. d.		
Thames Ballast	10 6	per yd.	delivered 2 miles radius Paddington.
Pit Sand	13 9	" "	
Thames Sand	14 6	" "	
Best Washed Sand	14 6	" "	
½ in. Shingle for Ferro-Concrete	12 9	" "	
¼ in. " "	14 0	" "	
¼ in. Broken Brick	11 6	" "	
Pan Breeze	7 6	" "	

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test £2 18 0 to £3 3 6

51s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 10 0
Super Cement (Waterproof)	4 8 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Strapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 16 9
Chalk Lime	2 16 9
Best Ground Blue Lias Lime	2 9 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dp.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 11½
PORTLAND STONE— Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4
Do. do delivered on road wagons at above stations, per ft. cube	4 5

White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

	s. l.
HOPTON-WOOD STONE— Delivered at any Goods Station, London. Random blocks from 10 ft. and over P. ft. cb.	17 0
Sawn two sides "	27 0
Sawn three or four sides "	32 0

YORK STONE, BLUE—*Robin Hood Quality.*

	s. d.
Delivered at any Goods Station, London. 6 in. sawn two sides landings to sizes (under 30 ft. super.) Per ft. super	5 6
6 in. rubbed two sides, ditto "	6 0
3 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2 in. ditto, ditto "	1 4

HARD YORK—

Delivered at any Goods Station, London. Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto "	6 1½
4 in. sawn two sides slabs (random sizes) "	2 10
3 in. ditto ditto "	2 1½
2 in. self-faced random flags Per yd. super	9 0

CAST STONE.

Delivered in London Area in full van loads, per ft. cube :—Plain, 8s. 6d.; Moulded, 9s. 6d. Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£28 0	3 × 6	£21 0
4 × 9	25 0	3 × 11	25 0
4 × 8	24 0	2 × 11	25 0
4 × 7	23 0	3 × 9	24 0
3 × 8	21 0	2½ × 9	23 0
3 × 7	20 0	3 × 4½	22 0
2½ × 7	20 0	3 × 4	22 0

PLANED BOARDS.

1 × 11	£27 0	1 × 9	£26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
⅝	20/-	1½	31/-
¾	22/-	1¾	34/-
1	25/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.	Inches.	per sq.
1	25/-	⅝	16/6
1¼	31/-	¾	19/-
1½	34/-	1	24/-

BATTENS.

Inches.	s. d.
¾ × 2	2 6 per 100 ft.

SAWN LATHS.

Per bundle	0 2 4

1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscoat, per ft. cube	0 16 0 to	0 18 0
Dry American and /or Japanese Figured Oak, ft. cube	0 15 0 to	—
Dry American and/or Japanese Plain Oak, ft. cube	0 11 0 to	0 13 0
Dry sq. edged Honduras Mahogany, ft. cube	0 16 0 to	0 18 0
Dry Log cut Honduras Mahogany, ft. cube	0 18 0 to	1 1 0
Dry Cuba Mahogany, ft. cube	1 4 0 to	1 10 0
Dry Teak, ft. cube	0 13 0 to	0 15 0
Dry American Whitewood, ft. cube	0 11 0 to	0 14 0
Best Scotch glue, per cwt.	4 10 0 to	—
Liquid Glue, per cwt.	4 7 0 to	5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

Delivered at London rate stations in full truckloads of not less than 4 tons.

	Per 1,000 f.o.r. London.
Best machine-made tiles from Broseley or Staffordshire district	£ s. d. 5 12 6
Ditto hand-made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) { Hand-made	0 9 6
{ Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In " Roof Work	19 10 0

MILD STEEL ROUNDS.

To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
⅜ in.	12 0 0	⅝ in. to ¾ in	10 15 0
½ in.	11 0 0	⅞ in. to 2½ in	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Black Gas	60 %	50 %	60 %
Galvanised Gas	45 %	40 %	50 %
Blue Water	55 %	45 %	55 %
Galvanised Water	38½ %	35 %	45 %
Red Steam	50 %	40 %	50 %
Galvanised Steam	32½ %	30 %	40 %

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.

O.G. GUTTERS.

3 in.	1/3	1/4½	3½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. "	2/0½	1/4½	2/1½
3 in. "	2/6	1/9	2/7½
3½ in. "	2/11½	2 0½	3 0½
4 in. "	3/5	2,6½	3,8½

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. plain	2 11	2 3	2 9
2½ in. "	3 5	2 6	3 5
3 in. "	4 1	2 9	4 0½
3½ in. "	4 5½	3 5	4 8½
4 in. "	4 11½	3 9½	5 5½

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

	Pipe.	Bends, stocks angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9 ft. lengths	4 3	5 9	7 6
4 in. " "	6 3	6 11	9 6
5 in. " "	7 10	12 0	16 3
6 in. " "	9 6	15 0	20 9

Gasken for jointing, 38/6 per cwt.

IRON—	Per ton in London. £ s. d.		£ s.
Common Bars	13 0 0	to	14 10 0
Staffordshire Crown Bars— good merchant quality	14 5 0	..	15 5 0
Staffordshire "Marked Bars"	16 0 0	..	17 5 0
Mild Steel Bars	10 0 0	..	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0	..	11 0 0
Hoop iron, basis price	12 0 0	..	13 0 0
" Galvanised	27 0 0	..	28 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	13 5 0	..	14 5 0
" " " 24 g.	14 5 0	..	15 5 0
" " " 26 g.	16 5 0	..	17 5 0

Sheets Flat Best Soft Steel, C.R. & C.A. quality—

Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	..	16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0	..	17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0	..	20 10 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—

Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 10 0	..	19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 0 0	..	20 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 0 0	..	23 0 0

Sheets Galvanised Flat. Best quality—

Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0	..	23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0	..	26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0	..	26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0	..	20 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	45 0 0
Pipe in coils	46 10 0
Soil Pipe	48 10 0
Compo Pipe	49 10 0

NOTE—Country delivery, 30s. per ton extra: lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills per ton	30 10 0	—
Do., ex country, carriage forward per ton	31 10 0	—

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	1 0½
Strong sheet "	1 0
Thin "	1 1
Copper nails "	2 3
Copper wire "	2 4

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62*-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	20/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1½ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1½ in.	1½ in.	2 in.	3 in.	
8 lbs. P. traps	33/-	41/-	56/-	101/-	per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/-	"

TIN—English Ingots, 2/10 per lb. SOLDER—Plumbers' 1/2, Tinmen's 1/5. Blowpipe 1/6 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil,	in pipes per gallon	0 3 1
" " "	in barrels	0 3 3
" " "	in drums	0 3 6
Boiled " "	in barrels	0 3 3
" " "	in drums	0 3 6
Turpentine	in barrels	0 5 7
"	in drums (10 gall.)	0 5 9
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		54 15 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polaceo," "J." Brand and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered	73 5 0
Red Lead, Dry (packages extra)	per ton	45 10 0
Best Linseed Oil Putty	per cwt.	1 3
Filicol	"	1 15 0
Size, XD Quality	ffcn.	7

Continued on next page.

*The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per Ft.		Per Ft.
15 oz. fourths ..	3½d.	32 oz. fourths	7½d.
15 „ thirds	4½d.	32 „ thirds	9½d.
21 „ fourths ..	4½d.	Obscured Sheet, 15 oz.	3½d.
21 „ thirds	5½d.	„ 21 „	5½d.
26 „ fourths ..	5d.	Fluted 15oz. 6½d., 21oz.	9½d.
26 „ thirds	7½d.	Enrolled 15oz. 5½d., 21oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
Rolled plate	4½d.
Rough rolled	5½d.
Rough rolled	6d.
Figured Rolled, Baltic, Oceanic, Arctic, Sup-polyte, and small and large Flemish White	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon. £ s. d.
Oak Varnish	Outside	0 14 0
Fine ditto	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Copal Carriage	ditto	1 4 0
Best ditto	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 2 0
Best ditto	ditto	1 12 0
Best Japan Gold Size		0 12 6
Best Black Japan		0 10 6
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 6
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebine		0 9 0
Copal Black Enamel		0 7 0

NEW COMPANIES

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

GRIFFIN WOODCRAFT, LTD. (214,733). Registered June 30. 17, Bromsgrove-street, Birmingham. Cabinet makers, architectural woodworkers, carpenters, joiners, turners, coopers, carvers, &c. Nominal capital, £500.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. (214,973). Registered July 10. 38, Victoria-street, S.W.1. To promote the science and practice of heating and ventilating, &c.

HARRY STEPHENSON & SONS, LTD. (214,985). Registered July 12. English and foreign timber merchants and importers, &c. Nominal capital, £3,000.

HOREB BRICKWORKS, LTD. (214,988). Registered July 12. Brick manufacturer, carried on at the Eclipse Brickworks, Horeb, near Llanelly. Nominal capital, £3,000.

G. F. HOLDING, LTD. (214,924). Registered July 9. 11, Withington-road, Brook's Bar, Manchester. Builders and contractors, &c. Nominal capital, £10,000.

PORTHCAWL ENTERPRISES, LTD. (214,903). Registered July 8. Palace Chambers, Bridge-street, Westminster, S.W.1. To enter into an agreement for the acquisition of certain land at Porthcawl, and to carry on the business of builders, &c. Nominal capital, £10,500.

H. J. PITCHER & SONS, LTD. (214,895). Registered July 8. Building contractor and decorator. Nominal capital, £1,000.

J. W. WISBEY & CO., LTD. (214,897). Registered July 8. Builder and shop and office fitter. Nominal capital, £5,000.

PLUMRIDGE, LTD. (214,902). Registered July 8. 130, Lawrence-road, Southsea. Builders and contractors, &c. Nominal capital, £100.

SPRING PARK ESTATES, LTD. (214,858). Registered July 6. Auctioneers, architects, &c. Nominal capital, £4,000.

GODDARD, MOVERLEY, & SON, LTD. (214,853) Registered July 6. Builders, &c. Nominal capital, £500.

THE SCOTTISH BUILDER

NEW BUILDINGS IN SCOTLAND

Abercairny.—RESTORATION.—A fête has been held to raise the sum of £600 for the restoration of one of the oldest churches in Scotland, the pre-Reformation Church of Fowlis Wester.

Clydebank.—HOUSES.—The Town Council expect shortly to have 1,000 houses of different types under construction.

Dunfermline.—The Dean of Guild Court has passed plans presented by the Town Council for the erection of 32 houses at Townhill and Kingseat.

Glasgow.—HOUSING.—Two schemes for the building of tenement houses are projected by the Housing Committee of Glasgow Corporation. It provides for the erection of 330 houses at Possilpark, at an estimated cost of £119,000. The other scheme provides for the construction of 300 houses at Govanhill. The cost of this scheme is estimated to be £126,000. Both schemes have yet to be submitted to the Corporation and to the Scottish Board of Health for their approval.

Greenock.—The Dean of Guild Court has passed the plans for the Corporation's housing scheme at Hole Farm. The plans show 34 blocks containing 136 houses of the three-apartment flatted type, seven blocks with 14 houses of the three-apartment cottage type, and 44 blocks with 88 houses of the four-apartment cottage type. The total number of houses is 238.

Lanarkshire.—HOUSES.—The District Committee of the Upper Ward of Lanarkshire are forwarding to the Board of Health estimates for the erection of houses in the Upper Ward, at a cost of £100,000.

Strachan.—PUBLIC HALL.—Tenders have been accepted by the committee for the Strachan Public Hall. The work is shortly to be started.

Obituary.

The death has occurred of Mr. John Grigor, builder, Elgin, aged 73 years.

HOUSING PROGRESS IN SCOTLAND

The following figures show the progress that has been made in State-aided housing schemes in Scotland to July 31 :—

	Completed.	*Under Construction.*
1919 Act	25,506	42
Private Subsidy Schemes	2,324	—
Slum Clearance Schemes	3,476	2,992
1923 Act—		
By Local Authorities	2,092	1,673
By Private Enterprise	6,726	3,029
1924 Act—		
By Local Authorities	2,322	10,276
By Private Enterprise	183	86
Demonstration Houses	17	—
	42,646	18,098

National Institute for the Blind.

The Annual Report of the National Institute for the Blind for the financial year ending March, 1926, is an interesting document. It deals with every aspect of the blind community of to-day, and a full account is given of how the blind are supplied with embossed books and periodicals in Braille and Moon type. Music is the art above all others which can be successfully cultivated by the blind, and their record as instrumentalists and composers has now been recognised throughout the world. Other parts of this very extensive report deal with "Science in the Blind World," "Helping the Blind of London," "Chorley Wood College." One item of particular interest is a picture which has been prepared, called "The Inner Vision."

BUILDING TRADE WAGES IN SCOTLAND.*

The following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons', Bricklayers', Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/7	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/3½
Fort William	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/6	1/0 to 1/3
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8 1/10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 387.

CURRENT PRICES FOR BUILDING WORK IN LONDON

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	32	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	8	6
½ inch on flats in two thicknesses	" "	6	3
Angel fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors, and partitions	" "	6	0
Do. trusses	" "	8	6

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		44/6	53/-	60/6
Do. tongued and grooved	"		49/-	57/6	65/-
Do. matchings	"	45/-	51/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super.	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	0

DOORS.

		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail : average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	51	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roof work	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	59	0
Do. Do. in flats	"	58	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	"	1/8	2/2	2/7	3/10	—	—
Do. soil	"	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"	—	—	—	14/7	19/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	4
Do. Do. Sirapite	" "	2	7
Do. Do. Keen's	" "	3	7
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, &c., for suspended ceilings.)			
Portland cement screed	per yard sup.	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	8½
26 oz. Do.	" "	1	0
Obscured sheet	" "	1	1
¼ in. rolled plate	" "	0	9
¾ in. rough rolled or cast plate	" "	0	10½
¾ in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2'-to 1/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.
* Denotes accepted. † Denotes provisionally accepted.
‡ Denotes recommended for acceptance.
§ Denotes accepted subject to modification.

ADWICK.—Sixty houses at Skellow, for the U.D.C.:—
*C. Ward, Carcroft.

ATTLEBOROUGH, &c.—For (*a*) four houses at Attleborough, and (*b*) four at Carbrooke, for the Wayland R.D.C.:—
(*A*)
H. Smith, Attleborough £1,725
(*B*)
S. Tennant & Sons, Watton..... 1,665

BEDFORD.—Repairs, cleaning, and painting work to the schools, for the E.C. Mr. G. P. Allen, F.R.I.B.A., architect and surveyor, 81, High-street:—
Ampthill-road Schools—
*C. A. White £308 1
Clapham-road Schools—
*S. Foster, Ltd. 257 19
(All of Bedford.)

BEDFORD.—Repairs, cleaning, and painting work to the schools, for the Governors of the Harpur Trust. Mr. G. P. Allen, F.R.I.B.A., architect and surveyor, 81, High-street:—
Girls' High school—
*J. Perkins & Son..... £205 0
Bedford Modern School—
*J. Perkins & Son..... 243 14
Horne-lane Elementary School—
*J. Perkins & Son..... 284 0
(All of Bedford.)

BEDFORD.—New house and motor garage for Mr. R. H. Keable. Mr. G. P. Allen, F.R.I.B.A., architect and surveyor, 81, High-street:—
W. T. Glass & Son..... £3,114
H. Bowler 2,899
S. Foster, Ltd. 2,875
*J. Corby & Son..... 2,801
(All of Bedford.)

BIDEFORD.—Eight non-parlour houses on the Handy Cross site, for the T.C. Mr. F. J. Harris, Borough Surveyor and Housing Architect:—
F. Branch £3,600
A. Beer 3,599
Ellis & Son 3,440
W. Beer & Son 3,396
*H. Glover & Son 3,160

BRENTFORD.—Erection of (*a*) 118 houses and alternatively, (*b*) 39 houses, (*c*) 27 houses, (*d*) 23 houses, and (*e*) 29 houses, on land fronting Lionel-road, Brentford, for the U.D.C. Mr. W. J. W. Westlake, surveyor, Clifden House, Boston-road:—
*E. Haydon, Brentford.

BURLEY-IN-WHARFEDALE AND MENSTON.—Alterations and additions to settling tanks, storm-water filters, and incidental works, at the sewage disposal works, Skipton-road, Otley, for the Joint Sewerage Board. Mr. H. Riding, engineer:—
*H. Hayes (Manchester), Ltd., Manchester £2,057 9 3

CHAPEL-EN-LE-FRITH.—Construction of a small concrete tank, the providing, laying, and jointing of about 640 yds. of 3 in. cast-iron spigot and socket pipes, complete with the necessary sluice valves, hydrants, &c., together with other necessary work, for the R.D.C. Messrs. Brady & Partington, chartered civil engineers, Market-street.—
R. Marsden, Bamford..... £779 12 0
Collins & Co., Radcliffe..... 700 0 0
*Hodson's, Ltd., Nottingham .. 613 12 6

CHAPEL-EN-LE-FRITH.—Seventeen houses at Chapel and nine at Bugsworth, for the R.D.C.:—
Chapel: Block 1 (3), brick—
*J. & G. Mellor £1,602 0 0
Block 2 (2), stone—
*J. & G. Mellor 1,110 0 0
Block 3 (2), stone—
*J. & G. Mellor 1,110 0 0
Block 14 (4), stone—
*J. & G. Mellor 2,180 0 0
Block 4 (3), brick—
*H. Troop 1,602 0 0
Block 5 (3), brick—
*H. Troop 1,602 0 0
Bugsworth: Block 1 (4), stone—
*J. Fielding 2,228 16 8
Block 2 (2), stone—
*J. Fielding 1,106 14 6
Block 3 (3), stone—
*J. Fielding 1,603 14 8

CORK.—The County Board of Health has accepted tenders for the following repairs: 34 cottages in the Charleville R.D., £264 13s. 6d.; in Kanturk, for 25 cottages, £126 9s. 6d.; in Fermoy, for 205 cottages, £930; in Mitchelstown, for 41 cottages, £249 12s. 6d.; in Mallow, for 83 cottages, £397 19s. The amount of accepted tenders by the North Cork Committee at Mallow was £2,003.

CWMAMMAN.—Ten houses at Glanamman, for the U.D.C. Mr. G. H. Davies, architect, College-street, Ammanford:—
D. Williams, Glanamman..... £5,290 0 0
Williams, Jones & Evans, Gwaencaegurwen 5,253 0 0
Morgans Bros., Gaunant 5,186 0 0
B. Morgan, Glanamman 4,993 15 0
Evans Bros., Glanamman..... 4,975 0 0
J. Davies, Pantyffynnon 4,917 0 0
D. J. Thomas, Ammanford 4,914 0 0
R. J. Hughes, Glanamman 4,898 15 0
James & Jones, Britton Ferry 4,785 0 0
J. H. Bevan, Pantyffynnon 4,748 14 0

DOWSBY FEN.—Pair of cottages. Messrs. H. C. & L. R. Singer, architects and engineers, Dowsby Hall, Bourne. Mr. T. Lake, surveyor, Bourne:—
*W. Barnes, Billingborough..... £795

EDGWARE.—New roads, sewers, and concrete conduit at Canons Park estate, for Mr. G. Cross, Mr. A. J. Butcher, A.R.I.B.A., architect and surveyor:—
Muirhead, Macdonald, Wilson & Co., Ltd. £8,220 14 0
G. Wimpey & Co., Ltd..... 7,984 0 0
G. O. Trentham, Ltd. 6,943 11 6
H. Pickrill 6,864 0 0
C. Carter 6,387 0 0
Howard Farrow..... 6,100 0 0
*Alexander, Thomson & Co. (London), Ltd. 5,740 0 0

HARROGATE.—Hospital on the Knaresborough-road site. Messrs. Elcock & Sutcliffe, architects:—
*B. Pumfrey & Co., Ltd., Gainsborough.

HASLEMERE.—Six blocks of four cottages at the Council's High-lane housing site, for the U.D.C. Mr. C. A. Best, surveyor:—
Chapman, Lowry & Puttick, Haslemere £15,673
F. J. Privett, Haslemere 14,227
Guildford and District Guild of Builders, Guildford..... 12,960
F. Milton & Sons, Godalming..... 12,100
*A. Husband, London 11,019

HAYFIELD.—Twenty non-parlour houses on the Cote-lane site, for the R.D.C. Mr. C. S. Righton, chartered architect, 18, Market-street, Marple:—
Scattergoods & Sons, Ltd., New Mills £10,750
J. D. Swindells & Sons, New Mills.... 10,500
John W. Swindells, Ltd., New Mills.. 9,500
†Mason & Hadfield, Ltd., Hayfield.... 8,500
Cowan & Wilson, Irlam o' the Heights 8,400

HONLEY.—Eight non-parlour houses and two parlour houses at Lane Head Hill, for the U.D.C. Mr. H. N. Royston, architect and surveyor:—
**Mason*—Ben. Lockwood, Thongsbridge.
**Joiners*—Bailey & Wakefield, Holmfirth.
**Plumbers*—J. W. Maddison & Sons, Honley.
**Plasterer*—Oldfield Bros., Honley.
**Slater*—Arthur Hills, Huddersfield.
**Painter*—J. W. Cornes, Moldgreen.
**Electricians*—Smith & Hargraves, Brockholes.

HORSHAM.—Sixty-nine houses on the site of Spooner's Farm, Crawley-road, for the U.D.C. Mr. C. G. Atkinson, surveyor, Town Hall Chambers:—
Murrell Bros., Horsham £41,033
Rowland Bros., Horsham 40,296
T. H. Bartlett, Haywards Heath 37,896
W. Gamer, Sutton 36,610
T. H. Thompson & Sons, Ltd., Grimsby 36,417
John Booker, Ltd., Horsham..... 35,436
Simms, Son & Cooke, Nottingham .. 35,140
W. E. Sherran, Storrington 33,275
†G. Potter, Ltd., Horsham 32,662

HOYLAND.—118 houses, Hoyland Common, for U.D.C. Mr. J. R. Shephard, surveyor:—

44 houses.	Per house.
Bricklayer—	
*F. Drabble, Mosborough	£195 0
Joiner—	
*A. Dobson, Wombwell	97 0
Plumber—	
*Saville & Co., Wombwell	46 10
Plasterer—	
*P. McPartlain, Hoyland	27 10
Slaters—	
*Taylor Bros., Grenoside	29 15
Painter—	
*F. Ashton, Elsecar	8 10
74 houses.	
*Wm. Chappell & Son, Chapeltown..	404 5

HULL.—Alterations and additions to 32, Jameson street, for the Corporation. City Architect:—
*R. Clominshaw, Hull ....., £1,591 19

HUNTLY.—Construction of an eight-bed isolation pavilion and other relative works at the Cottage Hospital, for the T.C. Messrs. Tawse & Allan, C.E., and architects, 10, Bon Accord-square, Aberdeen:—
Masons—*P. & R. Mitchell.
Joiners—*J. McKay & Sons.
Slater—*J. Cown.
Plumber—*J. Wilson.
Plaster—*G. McKay.
Painters—*R. Mitchell & Son.
Drainage—*J. Wilson.
Heating—*Mackenzie & Moncur, Edinburgh.
All of Huntly.

ILMINSTER.—New classrooms, gymnasium, &c., at the Boys' Grammar School. Mr. A. J. Pictor, F.R.I.B.A., architect, 14, Queen-square, Bath. Quantities by the architect:—
A. Wills & Sons, Ltd., Bath.. £4,916 0 0
W. E. Relleen, Ilminster..... 4,800 0 0
R. G. Spiller, Chard..... 4,636 0 0
Jesty & Baker, Weymouth.... 4,630 0 0
C. Bryer & Son, Ltd., Bridgwater 4,400 0 0
W. R. Rist, Langport..... 4,332 0 0
C. T. Tucker, Bristol 4,331 12 0
Clarke & Watts, Ilminster.... 4,100 0 0
*W. Coombes & Sons, Ilminster 3,981 10 6

IRELAND.—Contracts accepted by the Commissioners of Public Works during the month of July:—
Baltimore ex-R.I.C. barracks, co. Cork (restoration), C. Cullinane, Clonakilty; Ballyduff ex-R.I.C. barracks, co. Kerry (restoration), T. O'Connor, Tralee; MacCurtain-street ex-R.I.C. barracks, Cork (restoration). J. Delaney & Co., Cork; Innishannon ex-R.I.C. barracks, co. Cork (restoration), A. Hurley, Bandon; Automatic telephone exchange, Fitzwilliam-lane, Dublin (building of automatic telephone exchange), H. & J. Martin, Ltd., Dublin; Custom House and Science and Art Museum (demolition of chimney stack at Science and Art Museum and re-erection at Custom House), J. & P. Good, Ltd., Dublin; Four Courts, Dublin (roofing east and west wings), J. & P. Good, Ltd., Dublin.

KIRKHAMGATE (WAKEFIELD).—Six houses, for the R.D.C.:—
*F. Clough £2,900

LAUNCESTON.—Eighteen houses on a site at Dutson-road, for the T.C. Mr. J. F. Burford, Borough Surveyor:—
Masons—
Sharland & Son £340 0 0
*R. Adams, Westgate..... 280 0 0
Carpenters—
J. Harry 142 0 0
G. Biddlecombe 142 0 0
*R. Quick 134 7 6
(All of Race Hill.)

LEEDS.—Workshops at the General Infirmary, for the Board of Governors. Messrs. Kitson, Parish & Ledgard, architects, Vicar-lane:—
*S. Flockton.

LEEDS.—School of Dentistry, for the Leeds University Authority, at the junction of Blundell-street and Tonbridge-street:—
*Armitage & Hodgson, Ltd.

LEEDS.—Works for Messrs. Chas. Lucas, Ltd., in Roseville-road:—
*Wm. Gott & Son.

LEICESTER.—Building extensions at the Corporation's new central generating station, Freeman's Meadow. Mr. T. Robert Smith, M.Inst.C.E., City Electrical Engineer, Market-street, Leicester. Quantities by Corporation:—
Building—Brickwork—
*Browning Bros., Leicester .. £12,011 11 4
Building—Steelwork—
*R. C. Searle & Co., Leicester.. 2,449 0 0

LONDON.—New premises at Clifton-street, Finsbury, E.C., for Messrs. Couchman & Co., Ltd. Mr. F. Lindus Forge, F.R.I.B.A., architect, 3, Crooked-lane. King William-street, E.C.4. Quantities by Messrs. G. Spencer & Co., 79, Gresham-street, E.C.2:—
Holland & Hannen and Cubitts, Ltd., London £19,089
Killby & Gayford, Ltd., London.. 18,893
Ashby & Horner, Ltd., London.... 18,775
W. H. Gaze & Sons, Ltd., Kingston-on-Thames 18,448
*Walter Lawrence & Son, Ltd., London 18,023
Dove Bros., Ltd., London..... 17,925
S. Hayworth & Sons, Ltd., London 17,640

MALDON.—For (*a*) 12 houses in pairs, in Queenborough-road, Southminster; (*b*) 10 houses in pairs, in Hackman's-road, Cold Norton; and (*c*) six houses in pairs, near Round-bush, Mundon, for the R.D.C. Mr. Wm. Almond, surveyor, 6, Market-hill:—
(*A*)
*Smith & Hurrill, Burnham-on-Crouch £5,697 7 7
(*B*)
*F. Woodward, Cold Norton 4,374 16 0
(*C*)
*W. Dowsett & Sons, Bradwell-on-Sea..... 2,594 0 4
(Subject to approval of M.H.)

NORTH WINGFIELD.—Miners' Welfare Club' North Wingfield. Messrs. T. Bamber & Son, architects Derby-road, Heanor:—
*T. W. Wootton, Marshall-street, Heanor £2,375

SALTASH.—For (*a*) 10 houses and (*b*) 40 houses in the Corporation Field, facing New-road, for the T.C. Mr. F. St. G. G. Fox, Borough Surveyor:—
(*A*)
Wakeham Bros., Plymouth—
10 parlour..... £623 each
(*B*)
20 non-parlour..... 472 each
20 parlour ..... 508 each

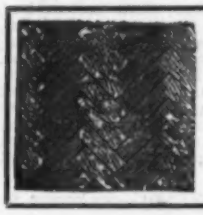
SCARBOROUGH.—Alterations and fittings in the Borough Treasurer's Department, for the T.C.:—
*F. W. Plaxton £319

SHARLSTON (YORKS).—Sixteen houses, for the R.D.C.:—
**Brickwork*—F. Clark & Son £3,816 0 0
**Joiner*—T. H. Bennett 1,953 0 0
**Slaters*—H. & W. Parker 468 10 0
**Plumbers*—Morgan Bros. 752 0 0
**Plasterers*—Nicholson & Platts 690 14 6

SITTINGBOURNE.—Twenty houses on Little Glovers Orchard, Bell-road, for the U.D.C. Mr. M. W. Lashmar, surveyor:—
Stanley Reeve, Ltd., Whitstable.... £12,400
T. Monk & Sons, Sittingbourne.... 12,040
*E. Bishop & Sons, Ltd., Sittingbourne 11,700
Whiting Bros., Faversham..... 11,700
Universal Housing, Rickmansworth (concrete construction) 11,100

SMALLBURGH.—Houses, for the R.D.C.:—
‡D. G. Underdown & Co., Ltd. £735 per pair,

SPYNIE.—Cottage, for the Moray C.C. Mr. J. Wittet, architect, Elgin :—
Builders—*D. Forsyth, & Co., Elgin.
Carpenter—*M. J. Gonman, New Elgin.
Slater—*J. Neilson, Lossiemouth.
Plumber—*J. Davidson, Elgin.
Plasterer—*Colin Menzies, Lossiemouth.
Painter—*R. Gordon, Elgin.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STOPSLEY (LUTON).—Twelve houses in pairs, for the R.D.C. Mr. H. Pickering, surveyor, 73, West Parade, Dunstable :—

H. Lacey & Son, Luton	£9,980
A. & E. Fensome, Leagrave	9,160
*Luton Building Co., Luton	9,122

SWALWELL.—External painting of 90 houses at Swalwell, for the Whickham U.D.C. Surveyor, Council Offices, Whickham, Newcastle-on-Tyne :—

*McKeard, Dunston	£100 17

TANDRAGEE.—Nine labourers' cottages, for the R.D.C. :—

*T. Hyde & Sons, Portadown	£2,691

THAME.—Cottage at the Waterworks :—

*Eaton, Thame	£580

THURNSCOE.—116 houses, for the U.D.C. Messrs. Carby Hall & Son, architects, Prudential Buildings, Park-row, Leeds :—

*H. M. Nowell, Stockton-on-Tees (Subject to the M.H. approval).	

TIVERTON.—Bungalow at Gipsy Hill, for Mr. H. C. Wakefield. Messrs. Dixon & Bamsey, architects, Central Chambers :—

J. Grater & Sons	£956	9	4
J. Thorne & Co.	896	9	3
*Bamsey & Marshall	672	11	6

(All of Tiverton.)

WALLASEY.—140 houses on the Lateral-road site, for the Corporation :—

*W. Hughes, Ltd., Birkenhead	£66,879

WEXFORD.—Six houses, for the Corporation :—

M. O'Connor & Co.	£2,072
*Mr. Browne	1,986

WHITEHAVEN.—Reinforced concrete service reservoir at Harras moor, for the T.C. Mr. A. Wilson Borough Engineer and Surveyor. Quantities by Messrs. The Trussed Concrete Steel Co., Ltd. :—

Jas. Leslie & Sons, Whitehaven	£3,707	18	5
Grays Ferro-Concrete Co., Ltd.	3,429	1	0
Leyland Construction Co., Leyland	3,332	5	9
Morgan & Cleghorn, Ltd., Carlisle	3,142	3	2
The Cumberland Reinforced Construction & Artificial Stone Co., Glebe Works, Harrington, Cumb.	3,026	4	3
*Border Engineering Contractors, Ltd., Whitehaven	2,998	13	0

(Subject to the Ministry's approval.)

YORK.—Extensions to the printing factory, for Messrs. Ben Johnson, North-street. Mr. W. J. Swaine, architect :—
*F. Shepherd & Son, Ltd.

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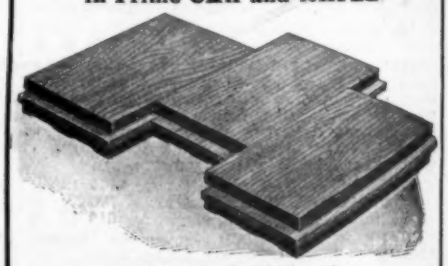
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